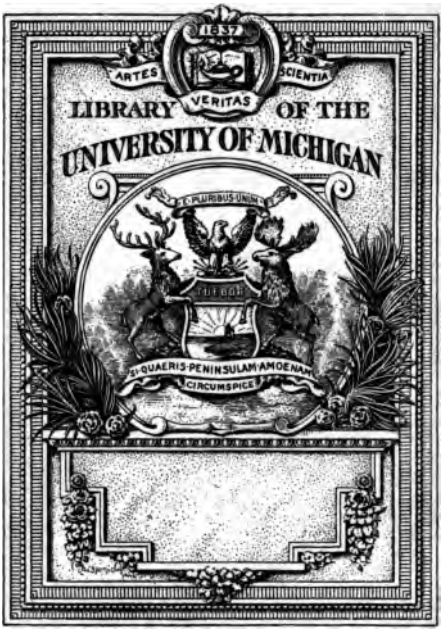
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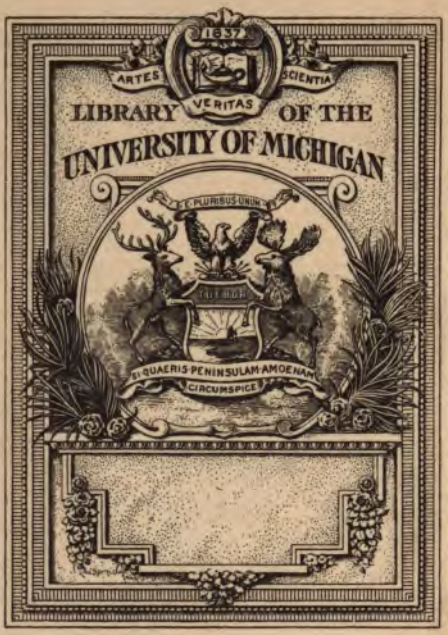
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THE

NORTH AMERICAN

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VOL. VII.

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CONTENTS OF VOLUME VII.

No. XIII.

ORIGINAL COMMUNICATIONS.

ANALYTICAL REVIEWS.

MEDICAL LITERATURE.

BIBLIOGRAPHICAL NOTICES.

QUARTERLY SUMMARY OF MEDICAL INTELLIGENCE.

MISCELLANEOUS ARTICLES.

ERRATA IN DR DARRACH'S PAPER.

Page 31, 15*th line from bottom, for* successfully *read* successively.
Page 35, 7*th line from bottom, in the place of* for *substitute* from.

THE

NORTH AMERICAN

Medical and Surgical Journal.

JANUARY 1829.

Original Communications.

ARTICLE I.—*Account of some Important Operations recently performed in Europe. By* RENE LA ROCHE, M.D. *In Extracts from a Letter to one of the Editors.*

Paris, 11 *September* 1828.

AFTER a long and fatiguing journey through the south and west of France, Italy and Switzerland, I have at last reached Paris, and hail it as a probable place of rest for at least a few months. During my ramble I contrived to improve my time, and to assemble some documents on the principal medical institutions of, as well as on the state of medicine in, the various places I visited. I likewise had the good fortune to become personally acquainted with many of the most distinguished medical personages there, and to spend in their society some of the most pleasant and instructive moments of my life. When I reach America, I hope to be able to give a shape to these documents, and to present to our readers from time to time an account of what I have seen relative to the medical sciences. Before that period it will be impossible to undertake such a work;

as my time is completely engrossed here in seeing and noting what I have seen; so much so, indeed, that I can hardly find a few leisure moments to correspond with my friends in America and this country.

As our friend Dr. Brown leaves this country soon for America, I have thought it my duty to send you by him a few lines on the subject of some operations I witnessed since my arrival here, and which may not be uninteresting to our friends.

The first of these was the excision of the neck of the uterus, which was performed with the greatest dexterity at La Pitié by M. Lisfranc. Before speaking of the manner in which M. Lisfranc operated in this case, and which I believe differs in nothing from his usual method, it will be necessary to premise a few words on the success of this operation in general, and also on the rules by which he is guided in its performance. The whole of what I am about communicating is derived from two lectures I heard him deliver on this subject. Since M. Lisfranc has commenced performing this operation, which was first done by Osiander and other surgeons in Germany, he has resorted to it forty-four times; and in the city of Paris, two or three surgeons have performed it several times. Of the whole number of females operated upon only four have died: one in consequence of a return of the disease, a second twenty-two days after the operation, a third of peritoneal inflammation, and the fourth I do not recollect from what cause. It was found, on the dissection of the second, that there were a large number of enlarged glands in the pelvis; so that, had she lived longer, the disease would probably, though not infallibly, have propagated itself in that situation. One of the cases in the above forty-four, was that of the woman on whom the excision was performed in my presence; and another was that of a lady who was operated upon the next day in the city, and whose disease was so far advanced as to force M. Lisfranc to cut deeply into the *body* of the uterus. The former of these is doing extremely well; and I yesterday learned, from the student whom M. Lisfranc placed near the latter, that she also is convalescing; no unpleasant symptom having occurred, although it was about ten days since the operation. When we reflect on the danger of cancerous affections of the uterus, and the extreme difficulty of managing them by the ordinary methods of treatment, we must naturally admit, that this success of excision of the diseased part is gratifying, and we may even say sur-

prising. It is true, that time must yet decide whether the women who have undergone this great operation will be *all* radically cured, or whether it is not more probable that *some* will have a return of the disease. But even admitting that the latter will be the case, we do not see that this should deter surgeons from undertaking the operation when circumstances presently to be noticed combine to offer a chance of success; for the disease is of that dangerous character which generally baffles all our efforts, and it is more than probable that *all* the patients affected with it would, without the operation, have died after a space of time more or less considerable. Certainly extirpation of the mammæ is not *always* successful, and we are not aware that there exists even a single surgeon of any eminence who for that reason would refuse to recognise in this operation the only method of ridding the patient of a disease, which, when far advanced and treated by ordinary means, almost certainly proves fatal. If by excision, therefore, only a *few* can be saved, we shall find in this partial success a sufficient reason for recommending the operation. This is putting indeed the chance of success at the minimum; for it is very certain, that many of LISFRANC's patients, even the first of those on whom the operation has been performed, have completely recovered, enjoying a degree of health to which they had before long been strangers, and that some of them since have even borne children.

Some surgeons here, who are opposed to the operation, have objected that all the cases in which it was said to have been successful, were not of a truly cancerous nature. M. LISFRANC allows that such might really have been the case; but very naturally remarks that this is no solid argument against the utility of the operation: for the diseases for which it was performed had greatly affected the constitution of the patients, had baffled the efforts of many physicians and surgeons of experience, and would no doubt have proved fatal. It is of no consequence, therefore, whether or not he had to deal with the cancer, provided it is shown that he operated successfully, and that without this operation he would have lost his patient. Besides, the disease in some, if not most of the patients alluded to above, presented all the known characters of true cancer, unless indeed like modern sceptics, we admit no complaint to be cancerous, unless it be totally *incurable*. Many ulcers of external parts, of the mammæ for example, which are only to be treated by extirpation, are cer-

tainly not cancerous; and yet few doubt that some which are really of the latter nature are successfully extirpated. Why therefore should we adopt a different sentiment respecting similar affections of the uterus, refuse to regard them as cancerous because they have been successfully removed with the knife, and say that, if truly of that nature, the operation will not succeed?

It is not to be supposed, however, that as soon as a patient presents herself to M. Lisfranc at La Pitié, or in his private practice, with cancerous or any other chronic ulcer or disorganization of the neck of the uterus, this part is cut out. So far from this, she is subjected to the employment of such means as offer a chance of success; and such means are mostly antiphlogistics, applied agreeably to the method of M. Broussais and his school. If such remedies seem productive of benefit, they are steadfastly continued; and M. Lisfranc remarked that he had known females affected with what was regarded as cancer of the uterus *cured* by these means. If the condition of the patient is stationary during their employment, they are also persevered in. It is only therefore when the disease, notwithstanding the employment of rational means, becomes aggravated; when the constitution of the patient begins to participate in the affection; when the skin becomes pale and yellow, the cellular tissue soft and flabby; when the patient loses flesh, &c. that the operation is resorted to. I need hardly remark that excision of the neck of the uterus is never thought of when the disorganization of that organ has progressed too deeply to allow a fair hope of removing, by the operation, all the diseased part without involving the insertion of the vagina. In some instances, however, as in the one alluded to above, M. Lisfranc was obliged to cut deeply into the body of the uterus; but he takes good care in such instances not to touch the insertion, and makes his incisions so as to give to the wound the shape of a cone, the apex of which is uppermost, and the base towards the external orifice of the vagina. Nor does the operation generally offer any chance of success in those instances in which enlarged glands are found in the vagina, &c. for it is more than probable that these will continue to augment in size after the operation, and degenerate at last into cancers. M. Lisfranc thinks, however, that, from his experience, he is justified in affirming that even in instances of this kind, the operation will sometimes be crowned with success, and that the vaginal tumours will generally

disperse. Such he has known to occur even after the use of the hot iron, in a case of cancerous uterus, in which M. LARREY resorted, agreeably to his custom, to this means.

It will be unnecessary to offer here a minute account of the manner in which M. LISFRANC performs this operation; as I believe it can be found in some of the journals published in this city. Yet a few remarks on some points connected with this subject may not be unacceptable to you. M. LISFRANC prefers, to the common speculum, that which the French denominate *brisé;* from the circumstance of its being divided longitudinally, and, by this means, susceptible of enlargement after it is introduced into the vagina. One reason for adopting this instrument is, that he can remove it very easily from the vagina after the uterus has been seized with the tenaculum; which could not be the case with the other. Another reason M. L. pointed out is, that the mouth of the common speculum is too small to admit, in some cases, the end of the cervix; so that the whole diseased portion cannot be seen, and the tenaculum cannot be sufficiently expanded to seize the uterus in the proper place, that is beyond the diseased part. He particularly insisted on the necessity of pushing up the tenaculum (which is always a dull one) at the moment of seizing the uterus; as this organ naturally recedes at this moment, and the surgeon would otherwise run the risk of seizing it too low or even lacerating the extremity. After the uterus is well secured, the speculum is withdrawn and the organ gradually pulled down until it protrudes at the orifice of the vagina. This is sometimes impossible, as the ligaments, &c. are too rigid; but it can always be drawn sufficiently low to allow the operator to cut in the right place. While this is doing, the assistants gradually open the labia so as to allow the surgeon as much room as possible. As soon as the uterus is sufficiently low, the first tenaculum is confided to an assistant, and a second double tenaculum is inserted, so as to secure the uterus above, below, and on both sides. The necessity of this precaution is obvious, for if the uterus were secured only above and below, the moment the operator would commence his incision (which is always done from below) and pass the lower branch of the tenaculum, the uterus, being no longer secured in that situation, would then recede, and the incision instead of being perfectly square, and separating all the diseased part, would be irregular, and great risk would be run of allowing some contaminated portion to remain on the upper edge of the neck. I do not know

whether you comprehend my meaning; but if you take a piece of muscle or any other substance and secure above and below by means of a double tenaculum, while some one pulls at the other extremity, you will find that on cutting from below upwards a larger portion will be cut below than above. The second double tenaculum remedies in some measure this defect; but not completely. With dexterity, however, on the part of the aid, the thing may be obviated. His part requires him to elevate the instruments as much as possible while the surgeon cuts below, and to depress them gradually as the knife proceeds upwards. By the time the uterus has been cut above the lateral tenaculum, the portion of the uterus to be cut is pulled sufficiently low to allow the knife to remove the diseased part.

In order not to cut more of the neck than can be done without endangering the vagina, the operator must pass his finger along the side of the neck. He can thus easily find a little elevated ring, beyond which is a depression. This is the place of insertion. The finger is used as the conductor of the knife; so that with due care there is no danger of going farther than is prudent.

I saw the operation attempted once at Marseilles; but it failed because the whole of the neck was completely disorganized; having undergone the cerebriform alteration. The consequence was that the organ could not be drawn down; the tenaculum tearing out, at each attempt, a portion of the soft substance. The operator on this occasion intended, in order to cut the diseased portion of the uterus, to use a pair of curved scissors; but from what I saw here of the toughness of this organ—of the difficulty of cutting it even with a very sharp bistoury, I doubt that he would have succeeded. M. Lisfranc always employs a bistoury on this account; and there is no doubt on my mind that his reasons for so doing are perfectly well-founded.

After the operation the patient is placed in bed, and the wound is allowed to bleed freely. Should the hemorrhage be too copious, however, and exhaust the patient, the vagina is plugged up at the orifice only and no *tampon* is pushed to the wound; M. Lisfranc having found that this method presents many inconveniences and is even dangerous, and that by the other the hemorrhage is sooner arrested; the blood coagulating in the vagina serving as a *tampon*. The object of allowing the flow of blood is to prevent too much inflammation, as this might extend to the peritoneum. Besides this,

bleeding at the arm is resorted to, and carried as far as the state of the patient will allow, as soon as signs of abdominal or uterine inflammation supervene.

Although the above description may not be as accurate and satisfactory as you might have wished, yet I venture sending it, in the hope of deciding, by the assurance that I have seen excisions of the cervix uteri performed successfully, some of our friends to undertake the operation in proper cases, rather than continue for months and even years to harass their patients by a fatiguing, and, unhappily, too often a useless course of treatment. The pain, though considerable, is much less so than I had been led to expect; and, even were it tenfold greater, there is not, or at least there ought not to be, a single disciple of ESCULAPIUS who would not prefer resorting to it under favourable circumstances to allowing his patient to die. His chance of success may not be, I grant, always as great as one will be led to expect from the favourable results of M. LISFRANC's operations; but even supposing that he saves only one half of his patients, is it not better to do that, than to see seven eighths of them die, after a lingering, disgusting, and painful disease.

It is but justice to M. LISFRANC to remark, in terminating this part of my letter, that reports which have been in circulation here and indeed all over France, respecting his want of veracity in reporting these operations and their results, appear to be wholly unfounded. I have taken pains to ascertain this, and the results of my inquiries have been quite satisfactory. Before witnessing the above-mentioned operation, I felt little disposed to make any inquiries relatively to this point; as a young physician, who passed through Marseilles during my residence in that city, had asserted to one of my friends that all M. LISFRANC had said on the subject of his success with this operation was false. It was only therefore when I saw his success in the last operation that I began to think it was the travelling doctor who was in the wrong. The fact proved to be so. M. LISFRANC has many enemies, who accuse him of being unpolished in his manners, and of other things; and who when he comes forward before the public with an account of a brilliant operation, generally *profess* to call it into question. The motives of such men are easily discovered; and M. LISFRANC may find sufficient cause of consolation in his success, and in the eminent services he renders to the young men who attend his practice at La Pitié—in my opinion the best school for surgery in Paris.

From the subject of excision of the uterus I pass to a few remarks on M. CIVIALE's operation; which formed the topic of a former letter*. I am led to resume the subject here, as I heard, since my return to this city, that one of our young countrymen, who visited it during my absence, declared that *he* would never resort to this method, the lateral operation being good enough for him. Now as he may repeat this expression of his determination after his return homeward, to induce some to refuse resorting to the method in question, it may not be improper to state that such a determination was formed altogether from a previous opinion, but not from personal observation: for I have been assured that the gentleman did not see M. CIVIALE, or any one else perform the aforesaid operation. Having myself seen M. C. operate several times under a variety of circumstances since my return to this city, I am prepared to affirm that the utility of his method has even gained in my estimation. M. LISFRANC, whose authority in surgical matters is not to be despised, publicly remarked, the other day, that a surgeon was in his opinion a criminal who would not, whenever the thing is possible, resort to lithontrity; and that the knife should only be used when the first method failed, or when, from some peculiarities of the case, it could not be attempted. This strong language, and coming, as it does, from a man of M. L.'s high standing in surgery, is calculated to prove that M. C.'s method (which on the whole appears to answer better than any other of the same kind) deserves to attract a little of our young men's attention when they visit Paris, and that it ought to be put in practice at home. M. LISFRANC, in proof of the decided advantage of lithontrity over the other operations for stone, remarked that, agreeably to some comparative tables made at Paris, it appeared that there generally died one out of five of patients cut in the various hospitals of that place; whereas, of about one hundred and fifty operations by the grinding method, its most bitter opponents had not been able to find out more than five or six fatal instances. And let it be remarked, moreover, that most of these fatal cases occurred in the hands of surgeons who were quite inexperienced in the use of the instruments. I am perfectly aware that the number of fatal cases after the operation of lithotomy in our American hospitals and particularly in private practice, is not so great as it appears to be in this city; yet it is considerable, and were a surgeon able, by

* Vide Vol. V. p. 74 of the North American Medical and Surgical Journal.

using the grinding method, to save only a few individuals more than he would with the other, it is undoubtedly his duty to resort to it; and I am almost of the opinion that if he does not, he merits an epithet nearly as strong as that employed by M. LISFRANC.

To become sufficiently expert in the use of the grinding instrument requires doubtless some experience; and there are not wanting some of the opponents of the method, who, out of laziness, will not learn, and who bring forward this difficulty as an argument for not resorting to the method or recommending it to others. You will readily perceive that such an argument is not entitled to much attention; for there are few surgeons "*de bonne foi*," who will not confess that to perform any important operation requires experience in the use of the instruments to be employed. Who in his senses, for example, will trust his eyes to an inexperienced oculist? It is only after many years practice—perhaps after destroying the eyes of several individuals, that a man is entitled to confidence in that branch of surgery. But no one, on account of this difficulty of attaining dexterity in ophthalmic surgery, will refuse to recognize great advantage in the art, and to learn how to use the necessary instruments with facility and success; nor will he encourage others to do so. If such be the case in one branch of surgery, I really cannot see why some will refuse to resort, or will try to dissuade others from resorting, to the grinding method, merely because it is no easy matter to use the instruments successfully at the first trial. This puts me in mind of the obstinacy of some physicians, who, because on their first attempts with the stethoscope they could not distinguish the minute *shades* of sounds specified by M. LAENNEC as indicative of morbid alterations in the lungs, pronounce it good for nothing and refuse to use it. It may perhaps be remarked at home, that a man who devotes himself to the practice of surgery generally has not time to make a sufficient number of trials on the dead body with the lithontriptic instruments and meets with too few cases of stone in the course of his practice to acquire the necessary dexterity in the use of them; while, on the contrary, a knowledge of anatomy, a habit of using the scalpel, and a *few* trials on the dead body will be enough to enable him to perform with a chance of success the lateral operation. To this I will answer, that even supposing all that has just been said to be well-founded, we cannot find in it an argument against the use of the lithontriptic instruments. It is well known that the greatest oculists of Europe attend to nothing

else than diseases of the eyes; and in this way only acquire the necessary degree of knowledge in this branch and dexterity in the employment of the instruments, to entitle them to full confidence. If such be the case in regard to this branch of surgery, why may not the same thing take place relating to lithotrity? Already in France there are surgeons who have turned their attention exclusively to this subject. M. CIVIALE himself attends to nothing or at least very little else, and so convinced are some of the first surgeons here, M. LISFRANC for example, of the great advantage of confining this operation to those among their colleagues who pay particular attention to it, that they never attempt it themselves, and, with commendable liberality, send all patients who come under their care with stone to the others. The same thing might certainly be done at home; and I have no doubt that the one who would direct his attention to the subject would find, after a short time, plenty of employment, and that both he and his patients would be much pleased with the results.

The cases in which I saw M. CIVIALE operate, since my return here, were all very interesting, and the results reflect great credit on him. The first was that of a man on whom M. DUPUYTREN had attempted the same method, but failed. His want of success, however, is thought by some to have been intentional, with a view of throwing discredit on the method. Be this as it may, the patient, being thought too much enfeebled by disease to bear the operation of lithotomy, was sent to the country to recruit a little strength. After returning to the city, instead of going once more to the Hotel Dieu, he entered the *Pitié*, was sounded by M. LISFRANC, experienced an inflammation of his testicles, and after recovering from this, was placed by M. L. in charge of M. CIVIALE. The first operation by this surgeon was performed at the hospital, in presence of a large class of students and of several surgeons, both foreign and native. M. C. experienced none of the difficulty which M. DUPUYTREN had done; he introduced a larger instrument into the bladder, seized the stone and ground it. All this was done in about as little time as I employ in stating it. The stone proved to be very brittle, several fragments were destroyed, and nearly a tea-spoonful of sand was passed with the urine immediately after the operation and during the course of the day. As the man's constitution is very feeble, in fact as he is a bad subject for any operation however trifling, he was soon sent to bed. Experiencing no unpleasant effects from this first trial, he very gladly submitted to a second a few days

after. The stone was again bored, and several other fragments destroyed. Since then, his bladder having experienced a slight degree of irritation, and, after this had subsided, one of his testicles having swelled, the operation has not been repeated. It is thought that a few days will suffice to set every thing to rights, when a third trial will be made. I have little doubt that, in a few weeks, this man will be completely rid of his stone*.

I attended at M. C.'s house on several occasions, and saw him there perform his operation on two or three individuals. One of the individuals, a man about 65 or 70 years of age, had submitted twice to the operation of lithotomy; once over the pubis, and the other time by the perineum. The consequence is that his bladder had two cicatrices, one above and the other below, which rendered it very irregular. Owing to this, M. C. experiences, at each repetition of his operation, considerable difficulty in finding the stones, and particularly the small fragments, and the patient suffers a good deal more than others generally do. Yet the former always succeeds, and the latter gets up laughing and joking, dresses himself, and walks off as if nothing was the matter with him; always stating that he will soon return to have the business completed, and that he is sorry he did not know of this method before, for had he done so, he would never have submitted to the others. Can the advantage of this method be indicated more satisfactorily than by such facts?

Another patient, also far advanced in years, has the opening of the urethra far below the head of the penis. This occasioned some difficulty in introducing the instruments. But M. C. finally succeeded; seized the stone, and with more than usual difficulty ground a good portion of it; for it proved as hard as marble. This man also walked home very quietly, and experienced comparatively little pain, except on the first introduction of the instruments. Since writing the above I have assisted, in company with our friends Dr Brown and Mr Ralston, at the second operation on this patient. He bore it much better than on the former occasion, complained of less pain, and *walked* off in good spirits, blessing M. Civiale with much warmth. A few minutes after I met him on the Boulevard. He told me that he had no pain, which I could easily per-

* One of the students informed me today (Sept. 8) that the man was quite well, and that the operation would be repeated in a few days.

ceive, as he walked as erect, and with as cheerful a countenance, as if nothing had occurred. Mr Ralston, who is no medical man, and consequently must be admitted to be a disinterested and impartial judge, will bear testimony of the ease with which the operation is performed, at least by M. Civiale.

In terminating what I have to say of M. Civiale and his instruments, I must not omit mentioning that, whilst at Pavia, my friend professor Rigoni informed me that the celebrated Scarpa had formerly publicly expressed a very unfavourable opinion of the operation—an opinion formed merely from examining a set of instruments made at Milan. In the spring of 1827, however, M. Civiale, who had gone to Genoa on business, crossed over to Pavia for the express purpose of seeing Scarpa. No sooner had this remarkable man seen M. Civiale's instruments, and been shewn the mechanism of the operator, than he perceived that the unfavourable opinion he had formed of this method was attributable to the *imperfection* of the Milanese instruments above alluded to, and not to the method itself; and candidly and honourably retracted his former judgment. Scarpa has not himself written any thing relatively to this change of sentiment; but requested professor Rigoni to do so for him, in a letter to professor Pazzini of Lucca. This letter is published in one of the numbers of Omodei's Annals, and ought to be read and meditated upon by every inexperienced opponent of the *grinding* method. They will, I hope, allow that Scarpa's judgment in surgical matters is of as much weight as theirs; and assuredly if he thinks himself authorized, after examining the thing for himself, and after mature reflection, to express a decidedly favourable opinion relatively to M. Civiale's instruments, I may be allowed to think that they will not be disgraced by *looking* a little into the matter; or at least by expressing themselves in a less decided tone against a surgical point, of which they have not the least knowledge, and on which consequently they are not able to pronounce.

The next surgeon to whom I mean to call your attention for a few moments is M. Amussat, certainly one of the most intelligent and promising young surgeons of Paris, and advantageously known for his researches on the structure of the urethra, and the essay he published on the subject; which, if I recollect right, was translated into English by our friend Dr E. J. Coxe.

M. Amussat, with whom I very fortunately became acquainted, through our friend Dr Brown, soon after my arrival in this city,

and who has ever since shown me many attentions, performs some operations, and is the inventor of some instruments which I think it right to point out to your attention.

Among the latter is a peculiar apparatus for grinding the stone in the bladder, to which he has had recourse successfully on several occasions: he thinks, however, that experience enables him to conclude, that in many cases this method of ridding the patient of his stone should not be attempted; for example, he remarks, whenever the subject is too young, or rather, whenever his urethra does not fully admit the introduction of the instrument, the operation should not be attempted. Nor should we attempt it when the stone is very voluminous, or when there is a disease of the bladder, prostate gland or kidneys, or a serious affection of organs important to life, as the heart, lungs, &c. Old people, also, who suffer a long time from the stone, and whose urine is continually charged with glairy substances, are in unfavourable conditions for this kind of operation. It can indeed be attempted with great chances of success, when the general health of the patient is good, and he supports tolerably well the presence of the stone. In all the former cases M. Amussat thinks the patients should be cut; but of all the operations of the kind hitherto recommended, he gives a decided preference to the *hypogastric*, or that made over the pubis. He has somewhat modified it, and in this way rendered it more simple and less dangerous than it was formerly.

M. Amussat has abandoned, for example, in performing this operation, the use of the stilletted catheter (sonde à dard), because he is led to think, from his experiments on the dead body, that it is difficult, with that instrument, to avoid wounding the peritoneum; whereas he has found that it is always possible safely to penetrate the bladder, by cutting over the pubis, and using as the only guide for the bistoury the left under finger. His numerous dissections have led him to the knowledge that a bladder filled with air has a quite different form as well as a different position from the same bladder filled with a liquid; and it is from this anatomical fact that he was led to adopt his new method of operating over the pubis. He remarks that the bladder when empty is concealed behind the pubis, and fills up exactly the space formed by these bones. In this state the organ has the form of a flattened cone, the base of which is below and the summit above. The posterior parietes are in contact with the anterior; and, behind, it presents a concavity analogous to

that of the pubis. This disposition of the organ is occasioned by the peritoneum, and by the pressure of the small intestines. The summit of the bladder seldom passes beyond the superior part of the pubis; so that its anterior surface is in relation with the whole extent of the symphysis. As regards the conical or triangular shape of the bladder, it is occasioned by the remains of the urachus and by the ureters. "In order to be convinced," remarks M. Amussat, "that the human bladder does not entirely collapse when empty, as in animals, it is sufficient to divide the symphysis on an entire subject: by this single examination a surgeon will easily convince himself that this happy disposition of the bladder in man favours very much the hypogastric operation."

This intelligent surgeon divides his method of operating into six principal periods. In the 1st, he injects tepid water into the bladder, with a view of giving it a sufficient degree of consistency. He does not think it necessary to distend the organ, as was done formerly, but contents himself with throwing in about the quantity of liquid it generally contains. After this is done an assistant holds the penis, with a view of preventing the escape of the water. 2. He makes an incision in the skin over the pubis, and opposite the linea alba, of about two inches in length; then, instead of dividing the linea alba the whole length of the incision of the skin, he opens it only to a sufficient extent to enable him to introduce his fingers. 3. He next plunges the bistoury into the bladder; but takes care, during this part of the operation, to use the left under finger as a guide for the instrument. When this is accomplished, he withdraws the bistoury, introduces the finger into the bladder, and curves it in form of a hook, so as to suspend the organ with it. 4. The bladder is now explored with the finger, and, if necessary, the opening of the linea alba or of the bladder is enlarged: after which the stone is seized with the forceps and, after the finger has been withdrawn, removed. 5. A large gum elastic canula, curved at the extremity, is now introduced into the bladder by the wound; and is intended to afford passage to the urine. 6. All the portions of the wound situated above the canula are approximated and kept in close contact by means of adhesive straps, compresses, &c. with a view of obtaining if possible their union by the first intention.

The introduction of the canula for the purpose of affording a free outlet for the urine is, so far as I know, original with M. A., and

must be really regarded as an improvement; for, the parietes of the canal soon becoming indurated, the urine cannot escape into the cellular tissue, and inflammation is thus obviated*. The urine continues to pass by the canula for some days, and finally finds its way through the urethra. A smaller sound is substituted for the other; and after some time the wound is closed by means of adhesive straps, and generally heals pretty soon. In those patients who were operated upon, recovery was rapid; except in a few, who, being refractory and moving a great deal, disturbed the sound, and in that way occasioned inflammation of the bladder. M. AMUSSAT has now performed this operation seven times last year, and four since the commencement of the present. Of the former patients, two have died, one in two months, and the second in thirty-eight days after the operation; but in both death seemed to be produced by causes foreign from the operation. Of the four last, one has died on the 37th day, and the fourth was operated upon only yesterday, consequently the results cannot be ascertained. The operation was very difficult, and proved in consequence a very painful one; for the stone was discovered to be adherent, and partly in the neck†.

It must not be forgotten, that M. SOUBERBIELLE, a distinguished surgeon of this city, has a long time ago expressed his opinion relative to the superiority of the hypogastric over the lateral operation; and that he has practised it on a number of individuals.

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* The former method of passing a catheter into the bladder through the urethra, and endeavouring to close the wound by the first intention, is considered inferior to the present; as a little urine almost always infiltrates, and the sound is not so easily borne. In M. AMUSSAT's operations, the urine, as it is observed, passes through the canula, and not, for some days, by the urethra. The reason is obvious; for the abdominal viscera, pressing during expiration against the bladder, force out the urine through the aperture of the canula; while the sphincter, having lost its natural antagonist, the contraction of the organ, remains always closed, and prevents the escape of the fluid.

† It is probable that the lateral operation would have been preferable in this case, but it was difficult to ascertain before hand the exact position of the stone. A few days ago I witnessed at the Pitié a case very analogous to this. The incision was made in the perineum, and great difficulty was experienced in detecting the stone; which was lodged under the arch of the pubis, had assumed the shape of the part, and was nearly two inches and a half in length, and one inch in width. It was moreover very irregular in shape, and had caused much suffering to the patient.

His method, however, differs from that of M. AMUSSAT, and having been long before the public, need not be noticed in this place.

As this letter is already sufficiently if not too long, I must postpone to another occasion notices of some other operations I have witnessed here.

ARTICLE II.—*Observations and Experiments on the Utility of Removing Atmospheric Pressure in Injecting Minute Preparations. By* RICHARD LEE FEARN, M.D. *of North Carolina.*

In the researches of anatomists and physiologists, no circumstance probably has contributed more to the development of the minute structure and organization of different parts of the human system, than the successful injection of some coloured fluid into their small vessels. As the labours of anatomists have been more or less successful on this point, have their discoveries and demonstrations been more or less extensive and important to mankind. Being well aware, therefore, of the importance that will be attached to any suggestion which may aid experimenters in these tedious subjects, I am induced to offer the following observations and experiments, not waiting longer for the test of full experience to corroborate them. They will be found, I think, so plausible, that demonstration or actual experiment will not be considered essential for their immediate promulgation.

The patient and successful investigations of RUYSCH and others, we all know, have thrown much light on the structure of many of the most complicated organs, particularly the glands. If I should, in the slightest degree, aid the prosecution of such investigations, my object, in making this communication, will be most fully accomplished.

The obstacles, which we have to encounter in injecting a fluid into the vessels of any tissue, are, atmospheric pressure; the weight or inertia of the superincumbent parts collapsing after death, tending thus directly to close the tubes into which the fluid is to be thrown; the collapse of the tube itself; coagulated blood, mucus, or such other substances as the vessels may by chance have in their

cavities. These are the natural impediments. There are unnatural difficulties sometimes to be met with; such as diseased states of the parts, scirrhosities, tumours, effused and coagulated lymph, &c.

I some years ago conceived the idea that atmospheric pressure, exerting its influence on the superficies of all bodies at the rate of fifteen pounds to the square inch, must inevitably retard the entrance of all fluids into the vessels of any organized soft substance. In addition then to the collapsed state of the minute vessels, &c. we have the weight of a column of mercury thirty inches in height, to be overcome by pressing on the piston of the injecting syringe, and forcing the coats of the delicate vessels to bear this enormous pressure.

It is true the atmosphere supports by its pressure the parietes of the tube, and this in a measure counteracts the tendency to rupture; but the apparently beneficial tendency, exercised thus on the minute vessels, may be proved to be extremely injurious, by reference to hydrostatic principles; and more familiar and more palpable evidences may be deduced from every day occurrences. The babe at the breast makes but a feeble effort, and consequently produces but a partial tendency to a vacuum or the removal of atmospherical pressure; yet the parts become swollen, and the small vessels are more injected with blood than could have been by any acceleration of arterial action. When we apply our mouth to a jar or cup, and attempt to withdraw the air from the vessel, our lips experience an itching sensation, and are considerably swollen and highly injected with blood. In fine, if it were as well to counteract pressure by increasing our efforts, as by removing the atmospheric influence by means of a vacuum, why would it not be as well to force the milk from the breast by pressure as well as suction?

It appears to me that, under the exhausted receiver, the expansion of the substance in which the vessels ramify, and the cellular tissue, is puffed with the minute portions of air, &c. thus enlarged; and the vessels themselves, much enlarged, would naturally be more easily ruptured; but in this case the force must be modified and regulated according to circumstances. It is evident that, on this principle, the tubes, in their most minute ramifications, expand and suck the injected fluid by this means into them. The essential difference in the two modes of injecting is, in the one way the force is applied where this difficulty immediately occurs, that is in the capillaries;

and in the other we apply the power on the large vessels remote from the obstacle.

During the last winter I had an opportunity of testing the validity of these speculations. I procured a testicle from the human subject, with the integuments removed and the vas deferens remaining four or five inches long. This was placed in a glass jar nine inches in length and two inches and a half in diameter. A small tube, communicating with the aperture of the divided vas deferens, was passed through a perforation in the side of the jar near the top. This hole was made air-tight around the tube by means of a cement of wax and rosin. At the superior end of the tube, without the jar, a small funnel was attached, into which was put about ʒii. of mercury. A common cupping glass with a valve on the top was then fixed on the mouth of the jar and made perfectly tight with wax. An air-pump which usually accompanies cupping instruments was the instrument used to exhaust the jar of air. After a few strokes of the piston, the mercury was seen descending in the vas deferens, and in short time the whole of the epididymis was filled with the fluid. The exhaustion was carried on as rapidly as possible; and at this juncture, when the vacuum was nearly as perfect as I could make it, the mercury burst the tubes and was freely effused into the jar.

The second trial met with the same results. I did not yet know how to control the operations of an apparatus whose power was so much greater than I had anticipated.

In a subsequent experiment I filled the jar half full of tepid water, in which the testicle floated; and instead of the air pump I applied my mouth to the cupping glass, and was delighted to find the mercury passing in freely. This was continued one hour and a half; when a column of six and a half inches of mercury was added, and, four hours after the experiment was commenced, the testicle was examined, and the whole of the epididymis, coni vasculosi, vasa efferentia, rete testis, and about three fourths of the tubuli seminiferi, were beautifully injected to their very commencement.

By examining this preparation while floating in water I was enabled to unravel a portion of the tubuli seminiferi. I estimated the portion which I extended in a straight line at one-third of the whole tube; and this part measured three feet four inches, making the whole tube ten feet long. Dr Physick suggested the idea of injecting ether into the minute vessels, and immersing the parts in

warm water, by this means enlarging the vessels and enabling the mercury to pass more freely; but it was found unsuccessful.

But, to return to the subject, I attempted to inject the arteries of an arm, while an assistant was working the injecting syringe. I placed a large cupping glass on the forearm. I afterwards carefully examined the part under the glass and a portion of the adjacent parts. Where the glass had solicited the injection, the minute vessels were quite turgid, while vessels of the same size in the other portion were colourless.

ARTICLE III.—*Case of Stricture and Gangrene of the Ilium, accompanied with an Anomalous, Strictured Prolongation of the same Bowel. By* WILLIAM DARRACH, M.D. *of Philadelphia.*

[With a Plate.]

M. G. L. a female, six years of age, slender and fair, was liable from infancy to attacks of cholera and colic; one of which, in July 1825, was ushered in with severe convulsions. By attention to diet, &c. the three last years of her life have been free from complaints.

July 5th 1828, she was attacked with colic. The parents administered successfully castor oil, a few grains of calomel, and a common enema. The former excited vomiting, and the latter was ejected without fæces. Partial sleep was now produced by gtt. x. of laudanum.

July 6th, 8 A.M. The patient was suffering with short paroxysmal pains, confined to a spot in the umbilical region, increased and excited by pressure. During the absence of these pains she dozed; the abdomen was somewhat tense; navel protruded; face pale, and countenance contracted and distressed; pulse 160, small, and hard; skin cool and dry; tongue covered with a yellowish fur, studded with red elevated papillæ, and healthy as to size, vascularity, and temperature; thirst; and occasional attempts to vomit.

Pediluvium gave momentary relief. Calomel gr. v. laudanum gtt. xxv. M. administered at 9 A.M. afforded several comfortable naps. At 10 P.M. the colic and tension were increased, the constipation

continued, and the pulse became rapid and small, with hot skin and aggravated thirst. V.S. ℥vii. Skin became cool, but the pulse remained unaltered—blood flat and without buffiness. At 12 P.M. croton oil gtt. iii. were given without effect.

July 7th, 5 A.M. *Tympanites* has now become the more prominent symptom: the paroxysms of pain in the umbilical region are less frequent and severe; but no alvine discharge; respiration somewhat laborious.—Castor oil mixture administered, and common injection again used, followed by two others, composed of assafœtida and jalap aa. ʒi.—and the catheter was introduced beyond, we believe, the sigmoid flexure of the colon. These means had no effect on either the constipation or tympanites: they gradually increased during the day, with vomiting, constant nausea, and thirst, and increased difficulty of breathing. At 12 P.M. ʒiii. of quicksilver were introduced into the stomach. A small alvine discharge, for the first time, soon followed the administration of it, consisting of a few granules of mercury and a little vegetable pulp, mixed in the unaltered solution of assafœtida and jalap previously injected. An additional dose of ʒv. of the quicksilver was then given, but without effect. Rhei ʒi. aq. calcis ℥ss. ol. menth. gtt. iv. M. were next directed to be used every hour. The mixture was rejected after the third dose.

July 8th, 6 A.M. Abdomen has become tender on pressure—stomach more irritable, respiration short, and expiration quick, indicating *peritonitis* to have supervened. Calomel gr. ii. quaque hora; and blister to abdomen. At 8 P.M. abdomen less swelled and tender.

July 9th, 5 A.M. Belching up of yellowish matter, evidently intestinal, though without a feculent smell; countenance hippocratic; breathing more laborious and irregular; extremities cold; thirst greatly aggravated. The diffusible stimulants which had been commenced the day previous were continued.

July 10th. On this day, and on the following until 4 P.M. the system continued to resist without pain or fever, the effects of what dissection has shewn to be a *stricture of the ilium*. The mind, voice, and muscular activity of the patient continued unaffected through all the stages of her complaint; characterized as they were by colicky pains seated in a single spot, constipation, tympanites, and ileus, and indicative of peritonitis and gangrene.

Post mortem examination. The small intestines were found so distended as to hide the stomach, large bowels, and omentum, and united by fresh effused lymph. This adherent and inflated mass be-

ing punctured and turned aside, enlarged mesenteric glands were brought into view, and the colon, which was rather contracted throughout its exterior length—the liver, spleen, and kidneys as in health. Further examination exposed *an intestinal portion*, which proved to be an appendage of the ilium, near it *a stricture of the bowel*, and a portion between the stricture and the colic valve, about twenty inches in length, including the anomalous prolongation, inflated and *of a mottled purple colour*. The mucous surface of the stomach was healthy, excepting a few spots of stellated red capillaries about the pyloric end; that of the duodenum was stained with yellowish bile, the red capillaries more numerous, that of the jejunum and ilium, to the stricture, exhibited also the red capillaries: that of the appendage and sphacelated portion will be noticed more particularly in the sequel; that of the large intestines perfectly healthy. The contents of the bowels consisted of a mixture of feculent and medicinal fluids, and of the mass of quicksilver, covered with a black oxide, and lodged in a pouch above the stricture made by its weight.

The plate which accompanies this paper represents the disorganized portion of the ilium.

Fig. 1. A, the ilium above the stricture, containing the quicksilver lodged alongside the stricture.

B, the cœcum, of ordinary size and colour.

C C C *c*, the discoloured and inflated ilium between the stricture and the colic valve.

F, the enlarged and softened mesenteric glands.

a, the strictured portion of the ilium.

D, the anomalous prolongation of the ilium.

d, a strictured portion between D and the portion of the ilium *d* C *a*, thin, enlarged and resembling the prolongation in texture.

Fig. 2. A, the mucous surface of the ilium above and at the stricture, shewing the existence and healthy condition of the valvulæ conniventes over the strictured portion, and a distention of the bowel above the stricture into a superficial pouch.

a, the divided strictured part, several lines in length; the caliber of the strictured orifice about five lines in diameter, the parietes indurated and thickened; yet the *mucous surface* covering the spot, having, as has been mentioned, the *valvular structure* as unaltered as in the part above the stricture.

D D D, the intestinal prolongation and the portion of enlarged ilium immediately below the stricture. They have the same altered

character—no valvulæ, flocculency, muscularity or observable vascularity, but a surface transparent as that of the urethra, and of a brownish olive colour as the rest of the sphacelated portion. The strictured portion *d d* is neither indurated nor thickened, except at one spot, where it is puckered as if by the application of the actual cautery. The caliber of the sack is an inch; that of the strictured part a single line.

C C *c*, the remaining portion of mortified ilium. The mucous surface unaltered except in colour, but covered with congested capillaries. The discoloration is owing to a brownish stain of the mucous surface itself, and to the accumulation of coagulated venous-coloured blood in the vessels of the other coats of the bowel. The arteries represented in the drawing were also found filled with the dark coagula.

Remarks. The thin transparent portion of the ilium D D immediately below the stricture *a a*, and continuous with the prolongation D, could not have well performed the functions of secretion, absorption, and peristaltic action; as its valvulæ did not exist, its villi and vascularity were diminished, and the muscular coat was almost entirely absorbed.

The identity of its morbid structure with the prolongation renders it more than probable that the latter originated in a dilatation of the former, as a part of the intestinal tube itself, and is not a congenital appendage of the bowel, as might, at first view, be supposed. The pathological inference deducible from the case as it presents itself, is, that the frequent bowel complaints which afflicted the patient from infancy had caused a permanent weakness in the spot below the stricture, which, permitting the contents of the bowels to accumulate inordinately in it, became permanently dilated. The stronger contraction of the intestinal tube immediately above and below would be a daily aggravation of the mischief, causing either an increased general enlargement of the debilitated part, or a pouch, as in the case mentioned by Baillie, pages 72 and 73, and, as we suppose, in the present case also. And a curative process was to follow. A vent thus made to enlargement in one spot saved the contiguous weakened portion from further debility. The cul de sac thus formed becomes deepened and strictured, and loses its sympathy with the intestinal mass; which eventually reestablishes the general route of its canal without it, leaving it, now useless, to dwindle in caliber, become impervious, and ultimately a fibrous appendage, if not to be wholly re-

moved. In organs more quiescent than the bowels such salutary processes may be in action without disturbing the ordinary actions of contiguous parts; but in the bowels, the peristaltic motion renders the formation of such dilatations and the consequent restrictive process, a cause of derangement to contiguous healthy parts. In the case before us, the inordinate deficiency of vital power of contraction in one part seems to have caused an inordinate and permanent contraction of the contiguous part, as the stricture at *a*. This stricture has not been caused, as the post-mortem examination has shewn, by any alteration of structure; but seems to be only a permanent contraction of the gut arising from sympathy with morbid changes of neighbouring parts. The unaltered condition of the mucous surface of the intestine, at the stricture, makes the conjecture reasonable that the function of the bowel was not interrupted during the quiescent state of the strictured spot, (since fluidity is the natural state of the contents of the small bowels,) and that a spasmodic constriction supervening upon the permanent contraction so as completely to close the narrowed passage, must be regarded as the cause of immediate difficulty and danger. This, judging from the paroxysmal umbilical pain, was the source of mischief in the present case; and if so, the prime indication in the treatment should be to quiet an irritable diathesis. Bilious colics doubtless consist in spasmodic contractions, one or more, of the bowels—and not to bleed nor attempt to purge, but instantly to put the system under the effect of opium by injection of from ʒi. to ʒii. of laudanum will be the immediate practice indicated. Put the patient to sleep, administering calomel, to operate after the spasm and the opiate effect have ceased. We know not what better practice than this to offer in cases like the one before us. The case lamentably shews the more than useless administration of venesection, antispasmodics, purgatives, and calomel. None of these can quiet an irritable diathesis which has superinduced a spasm upon a permanent intestinal contraction as can be done by a large injection of opium; and nothing, more than this, can so well secure a prompt mercurial action for a subsequent administration of large doses of calomel.

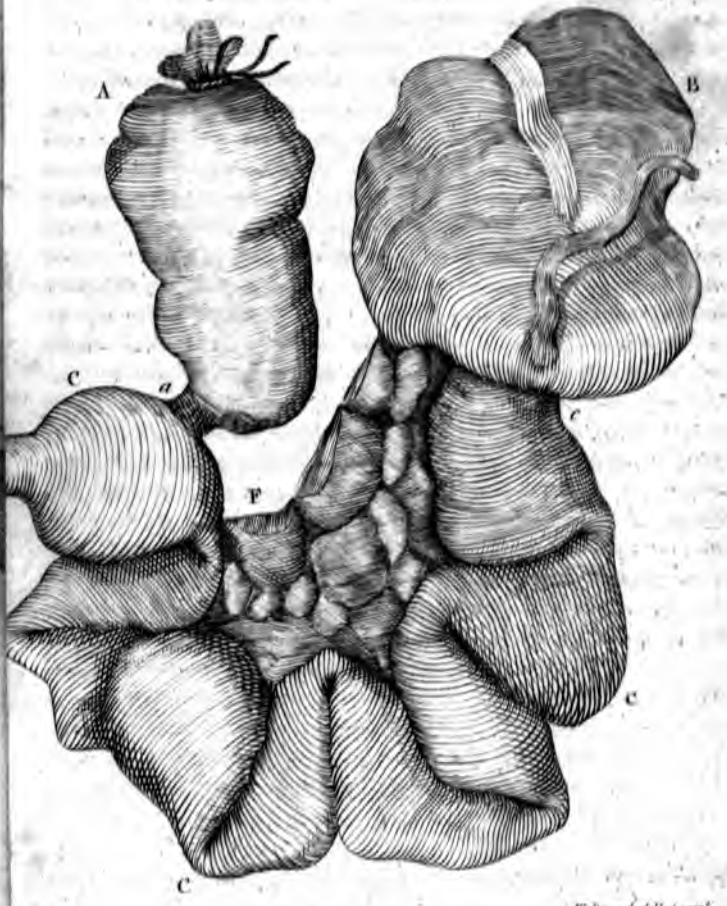
Permit me to add a remark, in closing this paper, on the cause and nature of the sphacelation of the portion C D C C *c*, figure 1. This portion of intestine is situated between the stricture and the colic valve; at which place of union with the cæcum, the ilium has a natural contraction—a closure liable to spasms with other simi-

lar parts of the body. The sphacelated portion seems placed, as it were, between two ligatures. In most instances this condition of a vital part would be quite sufficient to cause mortification. But in the present case, such an isolation will not interrupt the circulation of blood, for the vessels of the intestines do not run in the direction of the caliber but to and from the mesentery. The strictured condition did not cause the sphacelation by stopping a circulation of blood. And very happily so, as we should then have many more lamentable consequences to the frequent colics which daily occur, than we do have. Mortification of the bowel from stoppage of the circulation occurs only in hernia, when a fold of intestine is strictured, or when with this also an included portion of mesentery is strictured. In the present case, it is better pathology to believe that the stricture induced the gangrene by rendering the part included between it and the colic valve liable to more inordinate distention than the rest of the ilium. The tympanites without doubt is a secretion of gas from the mucous surface of the bowel; perhaps, in the present case, from a limited portion about the seat of disease. At the maximum of the tympanites, the ilium above the stricture divided the quantity of secreted air equally with the jejunum and duodenum, having only the pyloric valve to impede its diffusion upward. The distention is thereby moderated, and the liability to death of the bowel from one cause lessened. Not so with the other isolated portion; the stricture prevented the passage of air upward, and none, as dissection shewed, passed downward into the cœcum by the valve; all the air secreted was retained to distend, produce torpor of the coats, coagulation of blood in not only the almost lifeless capillaries, but also in the large inosculating branches of the mesenteric arteries, shewn in figure 2.

Article IV.—*Physiology applied to Therapeutics.* By John Bell, M.D.

The trials of empiricism always precede in the order of time the regular efforts of philosophy and science; and the progress of our species, like that of the individual, in intellectual improvement, is

Fig. 1



W. Dicenach. del. et sculp.

from isolated facts and thoughtless conjecture to a code of laws and scientific method and arrangement. This remark finds its verification, not merely in our own profession; it is abundantly illustrated in the history of legislation, politics, and morals. To obviate the present inconvenience—to remove the present evil—is the first purpose of men in the incipient stages of society, often without regard to the general and prospective effect of the preventive and restrictive measures. They too frequently attempt to benefit a part at the expense of the whole, when they would palliate the existing grievance, in place of searching profoundly for the seat and origin of the evil; and the body politic, like the human body, may be actually undergoing decomposition of its vitally constituent parts at the very time when sanitary means are believed to be in full operation. This hazardous course of the human mind, this dominant empiricism, continues unhappily to find apology and even favour with some, on the score of its antiquity, and the authority which is derived from long usage. But the constancy of such persons will after all be of little avail in retarding the revolution which is now being gradually effected in all the sciences, whether philosophy, medicine, or jurisprudence, which have utility for their object. Every change at this time embraces a question of principle; nor is any scene of whatever kind, in which man is the actor, so isolated as not to have borrowed some of the colours of that immediately preceding, and transmitted a tinge to that coming after it. Questions of international law, government, or trade, cannot now be touched on, without the social chain by which the nations of the earth are bound together, vibrating through its entire extent. So, and the comparison will not be called unapt, must there be a similar transmission through the whole animal economy, consequent on impressions made on any single organ. Without the data consisting in an accurate knowledge of all the component parts, and their relative predominance and functional connexion, we expose the entire machine to hazardous changes, if not irrecoverable decay, when we would attempt to produce on it any decided impression, or alter the series of phenomena which result from its peculiar organization.

The term healing art, applied to the practice of medicine, while it strictly expresses its most essential character, has been one cause of encouraging random experiment in the use of the various agents by which our frames are capable of being affected. Accident and instinct have furnished us with a long list of articles for vulnerary

medicine in its first and primitive state, the success of some of which encouraged to their internal administration, on the faith, it must be allowed, of very remote analogies. Obvious effects unquestionably followed their use; and considering how much easier it was to confound the perturbations in the animal economy produced by drugs, with its derangements by disease, and to note these phenomena as precursors and causes of crises, than to separate the hazardous and the noxious from the certainly beneficial operation, we cannot wonder if the recoveries were attributed to what preceded them in the order of time, without after all their being brought about by the alleged means.

The imitation of what is called nature has given rise to many and great errors in our construction of therapeutical indications. The relief at times following spontaneous evacuations by vomiting, or by sweat, or urine, or expectoration, induced physicians to try to produce by artificial means these evacuations, in the hope of similar relief being thereby effected. They forgot or chose to overlook the circumstance of such discharges being often the associated symptoms of most alarming exhaustion of the system at large, and great and disorganizing inflammation of the viscera whence they took place, as in the vomiting and purging in cholera, expectoration and sweat in pulmonary consumption, diuresis in diabetes. Nature, in such cases, is not the *vis medicatrix*, but is in fact synonymous with disease; and the symptom cannot of itself guide us to the measures for relief, unless we ascertain the condition of the part, of which the evacuated matter is only one of the evidences. If, again, on the other hand, physicians, unhappily influenced by a common effect of these profluvia to produce general languor of the animal economy, prescribed a class of remedies called tonics, astringents, and cordials, the operation of which was to diminish and retard the too abundant evacuations, they were still far removed from the true course of inductive reasoning. They inferred the nature of the cause from some of its effects, and established the identity of both; as thus: excessive discharges are attended with languor and debility, therefore these discharges are kept up by languor and debility, and therefore tonic and corroborant medicines must be given. After this why should we laugh at a chemist if we were to hear him say, that, since the burning of combustible matters is followed by the formation of ashes, incineration is consequently identical with combustion, and that to prevent it

we must allow a free supply of air and ventilation? If the absurdity of the chemist be corrected, by telling him that the extent of incineration will depend on the amount and nature of the articles in combustion, so long as air be supplied, of not less ready correction will be the error of the physician, by showing him that the quantity of discharged matters is dependent on the state of the organ from which they are given out, and the stimuli applied to it, and not on the condition of other organs secondarily affected; but to know the state of the organ is to know its structure and function, of course to be acquainted with its physiology.

Evacuations by the various emunctories are often the accompaniments to a solution of the disease. Must we therefore force evacuations, that is, exalt the nervous energy of the part, and drive the blood to it with increased momentum, regardless of the fact that whilst they mark the crisis of disease, they are the effects of violent and extensive disturbance of the animal economy, in which there would seem to be a severely contested struggle between death and life—a doubt whether the issue shall be a critical discharge or fatal disorganization? Is it wise or even necessary in us to submit the body to this strife, and drive the organs by heroical medicines to the same perturbating efforts of function to which they had been exposed in the unresisted progress of disease? If copious discharges by all the emunctories be the desideratum, why are we so alarmed when a corrosive poison has been swallowed, which simulates most accurately the crises in acute disease? Do we allow ourselves to be consoled by the reflexion that all the depurators are now fully tasked to eliminate the poison, and that the person may escape with his life; or would we not, on the principles of common humanity, pray that its ingestion had been avoided, and of course all the dangerous effects prevented? Nor ought we, while deprecating the major, yield our approbation to the minor evil; as when we shudder at giving corrosive sublimate and arsenic, sulphate of copper and nitrate of silver in full and deadly doses, and yet administer them in such proportions as to excite perturbation and commotion in the organs whose tissues are irritated and inflamed, with a view to what is called the alterative effects of these poisons.

Again, if it be contended that we are to imitate and aid nature by evacuating whatever is noxious, we ought first to ask whether the efforts of nature are more worthy of imitation at the beginning

than the end of a disease, and what are the noxious matters. The critical evacuations in acute disease have been an argument for stimulating the organs to a similar discharge by artificial means. But we have seen that it is safer to remove that state of the organ and body generally which produces a crisis than trust to the chance of relief by this termination. A critical discharge is always the consequence of undue prior excitement of an organ or apparatus; which excitement may as readily end in inflammation and disorganization as in salutary crisis. I say *may* in the argument—every practitioner knows that it *does so* in fact, when his patient dies in acute disease. Why then have recourse to a class of remedies, the operation of which bears so close an affinity to the morbid struggles of the system preceding a crisis or death. There are and must ever be uncertainties in our profession; but this will furnish us with no excuse for submitting our patient to the results of pure hazard, with even the common chances against him. But it will be alleged by the perturbators in medicine, that whatever we may think of the propriety of procuring evacuations towards the conclusion, there ought not to exist any hesitation about the employment of such substances as will accomplish this purpose at the beginning of a malady. Nature, they tell us, clearly points out this practice, by the vomiting or purging or sweating, which are so many efforts made to relieve the suffering organs. Here again is another fallacy, in nature's being made to represent a part of the series of diseased actions. The vomiting which comes on in bilious and yellow fevers, the purging in diarrhea and dysentery, and the vomiting and purging in cholera, are not so far spontaneous as not to be due to a preexistent altered and morbid condition of the alimentary canal. These evacuations are not then efforts of nature; they are, on the contrary, the direct effects of disease. If we, by emetics and purges, induce nearly similar effects, must it not be by the induction of nearly similar causes? Supposing the morbid causes to be really noxious matters irritating the gastro-intestinal surface, we ought, it has been contended, to remove them by the ingestion of other irritants, so as to force the canal to their expulsion; which, in other words, is to advocate the administration of a noxious agent under the sanction of science, in addition to that previously introduced by accident or ignorance. But the presence of any peccant matter may well be denied in a stomach, which has been for hours and even days subjected to vomiting; as in yellow and bilious fevers, and in

cholera, or in the intestines suffering under protracted diarrhea. If not in the cavities, is such noxious matter to be found in the vessels which supply them with blood and secreted fluids? Both physiological and chemical observations teach us to reject such a supposition. It is indeed conceded by the more modern practitioners that they do not hope to eliminate, by means of emetics, purgatives, or alteratives, any peccant matters from the blood,—this is an old and exploded error; nor are they very sure that there is any directly offending substance in the stomach and intestines: but they direct those medicines, with a view of altering the secretions when they are vitiated, and of restoring them when they are checked. A new action is to be induced by the medicines prescribed, and discharges of a healthy character brought about from the very same vessels which were pouring out fluids of a morbid nature. In reply to all this we may be allowed, first, to express our doubts about the reality of this new action, and whether tartar emetic, ipecacuanha, calomel, and jalap, have such peculiar and almost specific powers, as to be in such direct contrast with and opposition to the causes of the disease, that they shall never produce the vomiting and purging of matters similar to what were discharged spontaneously. As to restoring suppressed secretions by stimulating alterative and emetico-cathartic medicines in reduced doses, we must imperatively require that the conditions shall be stated under which we can conveniently and safely force the glands to an elimination of the materials brought to them with the blood. The physiological history of the individual shows that the milder and blander the nutritive stimuli applied to the digestive surfaces and secretors, the more regular and natural are the secretions; the same uniformity of action is obtained by moderate excitation of the organs of relation; and it is only when the parts are overtasked by irritating ingesta and circumfusa that their functions become impeded and irregular. Excessive indulgence soon brings on an abnormal condition of the animal economy; temperance and abstinence are not long in removing it. That man who on such occasions shall attempt to restore the equilibrium between the organs by adding a medicinal irritant to a nutritive one, that is, an emetic and purge after continued excessive repletion, and mercurial and antimonial alteratives after long indulgence in vinous and alcoholic potations, acts in ignorance of physiology, and of course of nature, and his patient is punished accordingly. Instinct in the brute creation is here a better guide than

boasted reason, or the false doctrine going by that name, in the human species. When their organs of nutrition are overtasked or seriously impeded in function they fast, and the disorder passes away. When we suffer from the like causes we substitute a powerful for a weak irritant, an agent which perverts nutrition for one which merely overtasked it, as if we disregarded life unless passed in the storm of passion, and supported by preternatural sensations.

The idea of relieving the engorgements of glandular and other viscera by stimulating their secreting and exhaling vessels to pour out fluids is purely mechanical and antiphysiological. It is based on the supposition of the glandular and exhalent apparatus being a mere strainer, and of their allowing the contained blood to pass off in a somewhat attenuated state by the secretory orifices. The leading condition is overlooked, viz. the co-relation between the surface and the stimulus applied, and between the former and the gland. If the first be diseased it is in vain to apply the second with any salutary effect: and supposing it healthy, the application of the latter can only elicit a certain amount of secretion not proportionate to the quantity of blood in the viscus, or to the necessity of its being disgorged; as we see in the formation of a chemical compound, in which the elements can only unite in certain definite proportions. But the probability is that the medicinal agent applied to a surface in relation with a gland, being a preternatural stimulant, will soon overtask the secretors and cause a stoppage of the discharge, while the irritation of the nervous expansions still continuing invites an increased afflux of blood to the gland, utterly disproportionate to the first evacuations from the excretors; and the evil is consequently aggravated by the very means brought in for its removal. Physiology, which shows to us the alternation of activity and repose in the organs, especially in all those in which the nervous system exercises any dominant function, readily teaches us also the necessity of the second state for the enjoyment of the first. This law applied to the treatment of the morbid condition before us would require our withholding all irritants from the disordered and engorged viscera. By the same guide we are taught that an afflux of blood to a part during the discharge of its function, as of the alimentary canal and its appendent viscera during digestion, is attended with a reflux from and a diminished action in another part, at least as far as the circulatory apparatus is concerned. This fact furnishes us with another practical hint for the treatment of disease; and accordingly we

endeavour to relieve the undue determination to an organ by withdrawing the blood from it. This is done in two ways: 1st. In acute diseases, by directly diminishing the quantity of blood in the vessels, and of course in the organ, by means of venesection. 2d. In chronic maladies, by operating a revulsion, in calling other and remote organs into active functional exercise, as the respiratory and voluntary muscular and the cutaneous systems, where the digestive is diseased. By these two leading means, pointed out by physiology, viz. withholding all irritants from the surfaces in relation with the glands and their excretory orifices, and diminishing the amount of blood in these viscera, we place the capillary tissue or the minute vasculo-nervous structure in the most favourable state for performing secretion, and under the stimulation of the common nutritive ingesta and agents of hygieine. All other plans of treatment are hazardous, if not directly pernicious; all the reasoning on the necessity and proper manner of restoring the secretions, not directly deduced from physiology, is vicious.

Physicians are at the present time well agreed in denying that there is any thing in the sensible or chemical properties of a medicine which should designate *à priori* its sanative powers, nor is there any natural or obvious connexion with or resistance to each other in a remedy and a disease. Instinctive wants do at times prompt to a particular use of some of the articles of hygieine for the relief of diseased sensations, as when a person inhales with pleasure cool air, and drinks cold water, and immerses his body in this fluid at a reduced temperature, after being heated by great exercise or by a febrile paroxysm. So, also, in the reverse condition of the animal economy, when the whole frame is chilled, and the circulation languid, warm air and warm drinks and clothing are sought for with avidity. Instinct hardly goes beyond this, because vicious education and the transmitted opinions of others have smothered its voice, as when food and alcoholic and vinous drinks are craved, an indulgence in which would be followed by great suffering and death. On the other hand, again, no natural desire can exist for those bitter or saline or nauseous substances, which are so often administered to the sick. Even the class of alimentaria has been made out rather from the results of experiment than the suggestion of instinct, which last has often failed to teach us the difference between a poisonous berry and a nutritive fruit.

If we except a desire for air and water and protection from at-

mospherical vicissitudes and extremes, all others are factitious and conventional, the result of prior opinion or present hearsay. However advanced the age or matured the dietetic experience of the sick man, he cannot, if a member of a civilised community, be trusted in disease, any more than we should rely on a child's safely choosing sugar rather than arsenic, when portions of both are placed before it. Since we find then that the sensible qualities of medicines are no guide, and that the desires of the individual afflicted furnish, with the exceptions already stated, no assistance, and, in fine, that the physician on his part is equally unable to draw on the reminiscences of his own wants and wishes, or to trust to their present suggestions, he must look to other quarters for therapeutical indications. Will books supply the desired information? They may perhaps tell how certain symptoms are to be combated; but they fail to give the precise number and intensity of those of the disease under treatment; or to teach him to distinguish the accidental and occasional from the paramount and fixed ones. Even if the physician ventures to prescribe a remedy which he is taught will obviate the larger number of symptoms, is he prepared, from the written accounts before him, to meet with and remove a fresh group which suddenly take the place of the former? Should he consult the aged in his profession, they will perchance tell him that they have tried this medicine without effect, and that one with success, in a disease which they name, carefully omitting its precise characters and localisation, for fear, honest philosophers! of indulging in theory. But as a name covers a great deal, one practitioner will gravely assure us that he has never failed to cure intermittent fever with bark; another will as confidently allege the superior efficacy of arsenic. What is a young physician to do, when he has found the symptoms of this disease more numerous and complicated after the most lavish use of bark,—or is required to treat a person who, after continued doses of arsenic, has, in addition to his periodical fever, a fixed pain in the stomach, which rejects bark and all its preparations, including the sulphate of quinia? Is he, on the authority of another *experienced* practitioner, to try sulphur, or the preparations of iron, or of copper; or, listening to the advice of a gossip, male or female, at his elbow, and, in order to give his patient every chance, make him royally drunk? He may do all this; he may perhaps break the series of paroxysms, and be called in return a judicious and successful practitioner, his patient eventually dying of chronic gastritis or he-

patitis, or pneumonia, or at best a prey to hypochondriasis. But if, using his own senses and intellect, he were to inquire into what constitutes the disease, what parts are affected, how far and in what manner their pathological differs from their physiological condition, and to endeavour to restore them to this latter state by appropriate rational though not scholastic means, he would be immediately branded as a theorist. He may cite his success—his triumph over obstinate and protracted maladies—all will not do. It is contrary to the experience, that is, the routine, the traditional practice of his predecessors and often dogmatical seniors.

If a student consent to be first the recipient and then the echo of the obscure revelations of those whose only claim to authority is their long observation and faithful chonicling of passing phenomena, without sifting, method, arrangement or qualified induction, he may become a ready medical artisan, a prescribing tradesman, but by no means a safe and skilful practitioner. To judge requires comparison, and for this latter to be performed a well known and familiar standard, a scale of ready reference must be presented to us. This standard for the physician is found in the healthy human body, this scale is seen in the healthy human functions, and its degrees in the signs of the regular discharge of those functions. The movements taking place in the complex machinery of the animal frame are manifested to us by characteristic appearances, various as the parts of which it is composed. Carefully observed and studied, we can predicate of the human body a connected series of actions, and of each of its component parts distinct and peculiar phenomena. To the sum of these appearing in regular succession we apply the terms of healthy existence. The analyses of the structure and office of each part and of the manner in which it is affected by the agents destined for its support are designated by the term physiology. By means of those agents called articles of hygieine the natural rhythm of the organs is preserved; while those which have the effect of producing a perturbating and abnormal condition of the organs, a strife as it were among them, are classed under the head of the materia medica, and their mode and manner of action and the circumstances under which they seem to be called for constitute therapeutics. As humanity forbids our administering any substance which, introduced into the animal economy, should have the effect of creating disturbance and distressing sensations where harmony of functions and pleasurable feeling had before prevailed, it is of course presumed

that therapeutical agents are only made use of to counteract the revolutionary and destructive tendencies of a morbid state of the organs. In administering them we beg the positions, first, that there is an unnatural and disturbed state of the human body at the time, and secondly, that we can only tranquillize its disturbance by inducing other perturbations. Here we are at the point which is to be more particularly considered. We cannot hope to acquire a knowledge of the body's being at the time in an unnatural condition, unless by marking its deviations from the healthy and natural one: nor dare we venture on the perturbating treatment by medicinal agents, if we do not know in what manner and order the organs of the body are impressed by hygieinic agents. The series of actions in health are performed by the same organs as those which give rise to the disturbances of disease; and the transmitted impressions of a medicine from organ to organ and tissue to tissue are in the same sequence as those of a nutritive agent. Rapidity of impression constitutes no generic difference, nor materially alters the position now affirmed. It may as an objection be alleged that certain medicines act exclusively on the circulatory, others on the nervous system, and so on; but we are safe in asserting that all must first affect a sentient surface prior to their producing any change in the animal organization. The same holds precisely with the articles of hygieine. Some go more exclusively to the benefit of the muscles, others to the development of the adipose tissue, others again to the more prompt elaboration of blood: air in its different states of temperature and pressure, moisture and dryness, affects the lungs and the skin, and the nervous and sanguiferous systems with very different degrees of intensity. But all these operations, however complex in their course of completion, primarily commence with a change in the sensitive surface, whether digestive or pulmonary, mucous or cutaneous. Never do the extraneous causes of disease, which consist in the inordinate force and quantity of the articles of hygieine, any more than those of the materia medica, operate by a different organization or trace for themselves a route varying from that taken by the circumfusa and ingesta for the healthy support and physiological condition of the body. On the nature of the impressions made on the gastro-intestinal mucous surface depend directly the performance of nutritive absorption and the secretions and nutrition and the regular rhythm of the circulation and respiration. On the nature also of the impressions made on this same surface by

the articles of the materia medica will depend the changes brought about in the absorbent, secretory, nutritive, circulatory, and respiratory functions when subjected to therapeutical treatment. Whether then we have to trace the laws of pathology, the principles of therapeutics, or the canons of physiology, we have constantly to deal with the same organization, that is apparatus or congeries of organs, and to observe nearly the same order of transmitted sensations and movements from one to another of these organs. I say the same organization—of course I do not mean it to be implied that the intimate molecular movements are identical in all these cases; but merely that no new organs or apparatus are formed—no new track of sensation created, on and through which medicines are to operate or disease to be transmitted. A clock goes fast or slow, or is entirely stopped; not by the addition or subtraction of new works or machinery, but by an impeded power in one part to transmit motion to another. All these ought to be familiar truths: but unhappily they are far from being so, else we should not have been doomed to see the materia medica taught by dry records of isolated facts, and a belief inculcated that the effects of a medicine were peculiar phenomena, in place of being a part and series, somewhat accelerated or retarded, of the natural and physiological actions of the animal economy. Nor should we have had the mortification of reading the strange explanations of the nature of diseases, in which the body is supposed to be under the influence of some occult agency or essence, and in a state of disturbance referrible to and explicable by no known laws. The words fever and inflammation for example, which ought to be representatives of compound ideas made up of many phenomena, are too frequently spoken of as an unit abstraction, and treated as an evil spirit which has taken possession of the system, and which is to be expelled by charms, drugs, and philters. It was thus that insanity, until of late years, was habitually considered as a judgment of the deity, or the visitation of some demon, or the operation of a mysterious enchantment. Exorcisms of all kinds were practised on these diseases; and we have had in addition a host of febrifuga magna and cures for maniacs of all degrees, from the prince on the throne to the tenant of a poorhouse, administered under a profound ignorance of the faculties of the human mind and of the organization necessary to their display.

In continuing to advert to some of the popular articles of faith which are currently received by the profession as constituting

so many therapeutical indications, we shall find that physiology will exhibit some of them as vulgar errors.

As regards the type of a malady. The indications are said to vary according as it is *continued* or *intermittent.* Here are two terms neither of which is indicative of a pathological state of the system. If we say that the disease is continued or persistent, we express ourselves vaguely: if we aver that the highly accelerated functions of the heart and lungs, and disturbances of the stomach, in fever, for example, continue without remission during its entire period, we assert what is not of actual occurrence. The organs of the human body have both in health and disease their times of diminished as well as of accelerated action: with some there is entire repose; with all an alternation of vigour and of languor. In health, sleep succeeding the waking state, shows this to be the case with the brain and nerves and muscles: the different states of the pulse corresponding with particular epochs of the diurnal cycle declare it for the heart and bloodvessels: the sensation of hunger recurring at stated intervals is not less expressive of the same truth in reference to the stomach, and so on of all the functions, as of the secretions of bile and urine, menstruation and defæcation. In disease, of whatever name or nature, there is a similar but less marked periodicity in the functions: as in fever, the heart after inordinate contractions will beat with less frequency and violence, and the respiration from having been panting and laborious will be more easy and equable; the skin exchanges its parched and burned feel for a softer and moister one; and in fine, temporary tranquillity will be found to succeed the most alarming disturbance of the animal economy. In chronic derangements of the organs, especially of the nervous system, the most signal abolition of function or atrocious pain recurs at regular intervals.

Periodicity, so far from being characteristic of a diseased condition, marks on the contrary a healthy one of the human body: and the more complete and perfect the order of sequence and alternation, the greater is the exemption from disease. Still less ought the periodical to be presented as the distinguishing type of any class of diseases, and the foundation on which to base therapeutical treatment. If it be the type of intermittent fevers, it is also that of hectic fever, hemorrhages, gout, neuralgia, mania, and numerous depravations and disorders of the senses. Accident led to the discovery of the beneficial effects of the Peruvian bark in intermittent fever, viz.

those of a paludal origin, and marked by long intervals of comparative ease and repose between the paroxysms of chill and heat. This single circumstance of the length of the interval was straightways made the distinguishing character of the fever; and by a singularly unfortunate process of analogical reasoning, it was inferred that any other malady marked by distinct intervals between its paroxysms should allow of the same grand remedy, the Peruvian bark. Nay, some went still farther; and though they found no intermission in paludal fevers, they thought that at least there ought to be such, and that this trifling omission of nature was not to restrain from the use of the bark. It was gravely alleged that in intermittent fevers it would destroy the periodicity and prevent the recurrence of the fit, whereas in continued fevers it would, if boldly administered bring about an intermission. Moliere himself could not have exhibited in stronger language the contradictions in medical reasoning than have been furnished on this subject by the opinions and practice of some distinguished teachers and writers. The laws of health were entirely overlooked, and the particular morbid condition of the organs noticed in the vaguest and most unsatisfactory manner.

The consequences of such empiricism were abundantly destructive of life, and an entailment on those who survived, of harassing chronic maladies, in which the stomach, liver, and brain, were the greatest sufferers. Periodicity being regarded as the essential character, in place of an adventitious and at most accompanying feature, the cure was made to consist in its removal; and the distress and complaints of the patient were either unheeded by the physician, or put down as the inevitable sequelæ of the fever. If common doses of the bark failed to prevent the recurrence of a chill, uncommon ones were ordered; and these failing, various presumed adjuvants, mineral and vegetable, were directed. All that traditional and written lore, or popular belief and personal whim could suggest, was enlisted in this cause, and all with the single view of stopping the chill and breaking the periodicity of the paroxysms. Even if other motives were assigned or other explanations attempted, they were adduced in support of some closet speculation rather than derived from a study of the perverted functions of the organs. Yet why should the single circumstance of a chill be the signal for such hazardous empiricism? A large and formidable class of maladies in the nosological scale, viz. the phlegmasiæ, were known to be ushered in by coldness and tremor, followed by increased general heat, hur-

ried respiration and gastric distress, similar to the hot stage in intermittent fever. Had physiology been consulted, it would have taught that any strong and painful impression on the nervous system is capable of producing rigors, which are moreover so common in the first stage of gastric digestion, and in any irritation or undue stimulation of the stomach from indigestible and non-nutritive matters. Following them will be increase of heat, a partial or general glow on the surface, and increased activity of the pulse. Every full meal brings with it a physiological paroxysm differing only in degree from the pathological one of intermittent fever. Few, actuated by their own feelings, and the slightest experience on the subject, would think of moderating the force of the former, supposing it to occur painfully after dinner, by eating beefsteaks and drinking porter for breakfast, and taking bark and wine at noon: and yet this would be to the full as rational a practice as that usually pursued in the second case, with this difference in favour of the first, that the morbid paroxysms are usually connected with a disordered stomach doubly susceptible to any stimulating agent whether of hygieine or materia medica.

Among the indications which are presumed of right to guide us in the administration of remedies, none have been so emphatically dwelt on as the state of the *sanguiferous system, measured by the pulse.*

If, and the concession is a large one, the resistance to pressure on an artery, constituting what is called pulse, gives the measure of the force, freedom, and regularity of the contraction of the left side of the heart, we must suppose a uniformity in the beat of the arteries throughout the body. This is the popular creed of the day by which most physicians practise—how erroneous a one will soon appear. A more improved knowledge of general anatomy and physiology shows us that if we except the number and time of the pulsations, no other sensations produced by pressure of the finger on the vessel can be relied on as indicative of the state of the heart at the time. The particular conditions dependent on the quantity of adipose and cellular tissue in which the artery is imbedded, its size and local excitation, are frequent and influential modifying causes of various opinions and of fallacies of induction as to the weakness or energy of the heart's contraction. The pulse may be very feeble and small at the wrist, and full and bounding at the carotids or the cœliac branch. The heart is at times beating with great

violence, and oppressed with the load of blood which it is unable to expel, at a time when the hands and feet are cold and the pulse at the wrist scarcely perceptible. The physician declares on these occasions that the pulse will not admit of bleeding, that the patient is sinking, and must have cordials to rouse him, and tonics to strengthen him. The cœliac branch and its ramifications continue to contract with increased frequency and force, under the stimulation thus supplied to their terminations in the gastro-intestinal mucous surface, and injection is followed by congestion, ulceration and death. At this time, also, the arterial system of the brain directly responding to the stomach continues its morbidly excessive action, and there ensues extravasation, or altered meninges and cerebral substance; and all this at a time when the patient's debility is pronounced to be so alarming that he is threatened with typhus and what not. Be this said parenthetically. What I more especially wish to touch on at this time is the vagueness and erroneousness of deduction, in regarding the disordered action of the heart and blood vessels as the immediate sustaining and essential cause of fever, or of a febrile or phlogistic diathesis. Considered as such, we have had forced on us a classification of remedies according to their presumed effect on the sanguiferous system; on which many of them were alleged to have a direct exciting or sedative power. Now, even supposing that the pulse gave us the true measure of the heart's action, I think it is not difficult to show that this latter does not in its various mutations constitute a sure or leading index to the energetic performance of the other functions in health, nor their dangerous disturbances in disease.

The two agencies by which, under all circumstances, the heart is affected, are the blood and the nerves. The first is a permanent exciter directly applied to the organ; the second is the medium for conveying irritation from other parts. If we except the increased momentum given to the blood by muscular exercise and the addition to its quantity obtained by the passage of chyle into the veins, and thence to the heart, we can hardly conceive of any modification of the function of this organ, short of organic changes, which is not caused by nervous stimulation, that is to say, of impressions on other parts transmitted to it by means of the nervous system. All the emotions of the soul, the exercise of thought, sensual gratifications of whatever nature, operate on the heart through this channel; which is also that for transmitting stimulation from the nutritive viscera. On comparing these various sources, we find some, as the

brain and senses, giving out stimulus only occasionally to the heart —others supplying it in a more full and less interrupted manner, as is the case with all the surfaces concerned in digestion and secretion. Hence, again appealing to physiology, we learn that the ingestion of nutritive articles is speedily followed by increased and more vigorous contractions of the heart, which persist so long as the gastric surface is stimulated by the presence of food. This increased contractile movement is not, we are assured, an effect of the augmentation of the quantity of blood by the passage of chyle into the vessels, since it is evinced anteriorly to the introduction of this fluid, and is not proportionate to the quantity formed. It is not intended to deny that the chyle will, when conveyed to the heart, act as a stimulus to this organ; but I would say that it is not either so potent or prolonged a one as that just indicated. Let there be, from any cause whatever, a tardy digestion of alible matters, and their consequently prolonged delay in the stomach, and the heart is sure to respond to the trouble and irritation of the gastric surface; as it does to those of the intestinal from similar causes, or from indigestible and unchanged substances, such as unripe fruits, &c. If these continue to be repulsive to the gastro-intestinal surface, then ensue nausea, vomiting and purging, and an exceedingly hurried action of the heart and blood vessels. Here there can be no question as to the order of morbid symptoms; nor any doubt that the circulation will be tranquillised so soon as the digestive disturbance has ceased. Irritation thus caused by foreign matters may however persist after their removal, if the vasculo-nervous tissue of the membrane have its sensibility permanently excited, and an increased flow of blood in its distended capillaries; a change this to which all parts are liable when violently impinged on by a foreign body, or subjected to sudden vicissitudes of temperature. The conditions for relief are now no longer the same; vomiting and purging cannot expel that irritation kept up by injected and congested mucous membranes. So long, however, as this morbid condition of the digestive surface remains, so long by the very constitution and laws of the human frame will the heart be hurried and disturbed in its function, however much we may diminish the quantity of blood, its permanent stimulus, or deaden sensibility, that is the readiness of nervous transmission, by sedative medicines. We cannot conceive any primary increased action, or idiopathic excitement of the heart and blood vessels. It must of necessity be secondary and symptomatic.

It is indeed possible that the blood may undergo certain chemical modifications that shall augment its normal stimulating property: but this admission can only apply to evident and rare cases, in which foreign matters are introduced into the circulation and under circumstances known and appreciated. In all other cases of alteration of the blood this must necessarily be more an effect than cause of a morbid condition of the sanguiferous system.

In conclusion, and still restricting ourselves to physiological phenomena, we are authorised from the premises to infer that the pulse and the other evidences, however accurate, of the regularity and force or reverse states of the circulation, do not furnish in themselves indications to the employment of therapeutical measures. The alterations in the functions of the sanguiferous system are but symptoms of altered functions of other parts, notably of the brain and senses and the internal surfaces, including the digestive mucous: they are symptoms of value, but not paramount or even always influential ones. This admitted, we can understand, from our knowledge of the great varieties in the readiness of an organ to transmit and of another to receive stimulation, why the heart and blood vessels are on one occasion violently excited by irritations of remote surfaces and by mental conflicts, and in another scarcely affected. On the same showing, we cannot be blind to the fact, that a hurried circulation may at one time give true and at another highly exaggerated evidence of the irritation of an organ; while again the sympathies may be so slow that disorganisation shall be going on without any danger being announced by disordered circulation. We have multiplied examples of this difference in the physiological phenomena of the cutaneous and mucous surfaces. The hand, gently rubbed over the skin of a Hindoo or Egyptian, will cause a crowd of voluptuous sensations, and may be carried so far as to excite both the heart and voluntary muscles to violent irregular contractions; whereas to make an inhabitant of Nootka Sound feel at all you must almost flay him. Not less contrasted in intensity are the phenomena following the ingestion of food. Some have hurried circulation, laborious breathing, and greatly increased heat of the skin after a very simple repast. In others a meal of fish, train oil and copious potations of alcoholic liquids will hardly be attended with any perceptible effects. In both the stomach is stimulated to the performance of its digestive function, which implies of course a stimulation of its inner and mucous surface; but,

in the former instance, it takes on promptly sympathetic excitation; in the latter it is very slightly affected. And yet he who should argue from the frequent pulse of the one constant danger, and for the other immunity from alarming organic alterations, would be led into serious error; for, while complaining is often the lot of the first, congested lungs, apoplexy and sudden death are not unfrequently the fate of the second. In giving this contrasted picture, it is not meant to deny that, when the physiological is converted into the pathological state, the sustained irritation of an organ almost always excites the heart; but the amount of this excitation will not be the measure of the extent and violence of the first irritation, since temperament and particular constitution of the individual modify in disease, as well as in health, the rapidity and energy of the transmission.

It is common for us to speak of the slow irritative fever as the cause of emaciation, and of the predominance of decomposition over composition in the phenomena of nutrition. The analogies furnished by physiology, in addition to the direct evidence from *post mortem* examinations, show, on the contrary, that it is the congestion and altered structure of some organ which communicate continued irritation to all the nervous system, and through which the circulation, digestion and secretions are hurried and irregularly performed. The fever, as it is called, is on such occasions but one of the effects of organic irritation, and as such will disappear when this latter is removed, and not otherwise; and hence the necessity of a correct diagnosis, in order to determine the precise part affected both in acute and chronic diseases, that our remedies may as much as possible be addressed to it, and not to the presumed disturbances of the blood vessels and nerves.

We may, I think, rightfully infer from the preceding passages, that, 1. The disorder of the circulation, viz. of the function of the heart and blood vessels, ought never to constitute a primary indication to the use of remedies, since it is a state consequent on prior action of other organs. 2. The sanguiferous system, even when greatly disturbed, is not always evidence of corresponding disorder in other parts, any more than the absence of such disturbance is a proof of their entire integrity; of course this system cannot be a guide to the nature and quantity of therapeutical agents. Ignorance of these facts has led nosologists into singular contradictions, when they supposed a disease to consist in a given number of spe-

cified symptoms, without regard to their sequence or organic origin. Were any of the symptoms wanting, the group, in place of receiving a name corresponding with their origin and location, was regarded, as an exception to the rule, an anomaly. We were told, for example, of a *febris sine febre*, a fever to which, as defined by them, some of the essential characters were wanting, viz. a frequent pulse and increased heat. If fever consist in a convulsive state of the blood vessels according to one, or, in a morbid excitement of the heart and arteries according to another, the tranquillity of these parts necessarily implies absence of fever. Now we all know that there is scarcely a season of epidemical visitations of disease in which some of the most violent and fatal cases are not marked by a want of these symptoms—the ones, be it remembered, which are presumed to indicate more especially the necessity of sanguineous evacuations. The practical error of such views is manifest. No matter how great may be the sufferings of the stomach and head at this time, even though they approach to gastritis and arachnitis, since there is no fever, we need not, ought not, say the nosologists and idiopathists, to bleed. The physiologist, on the contrary, confining himself to a strict observation of the phenomena of the organs in their vital condition, sees, not a poison or mysterious essence directing itself at one time on the bloodvessels, causing accelerated pulse and morbid heat—at another, on the nerves, giving rise to aberrations of sense and intellect—or again, on the bones and muscles, causing rheumatic pain, but a morbid exaltation of function and sympathies, in which two, three, or more organs participate. Hence, when he finds, after a careful scrutiny, that an organ, say the stomach, is so disordered in its office as to be nearly disorganised, he does not perplex himself with continual feeling of the pulse to know whether there is much or any fever, in order that he may next judge of the propriety of drawing blood; but he knows at once that he must, in addition to withholding all the articles of hygieine or the materia medica, which could in any way keep up the disturbance of the organ, diminish also the amount of that fluid, the blood, which is at all times a strong exciter to its functions. His acquaintance with the influence of the stomach over the rest of the body satisfies him that, however feeble at this time may be the contraction of the heart and great the languor of the other organs, these will soon be replaced by an energetic discharge of the circulatory and other func-

tions, when the diseased viscus is restored to its integrity of structure and entireness of office.

The reader is not to suppose that these remarks are intended either to create a disregard of the pulse, which is the best single index to the state of the heart and blood vessels, or a neglect of the latter as aiding us in correct diagnosis. I would only protest against symptomatic disturbances being elevated into primary and paramount diseases. Before, however, we can place any reliance on the indications deduced from the pulse, we must have studied it in all the healthy phases of the animal economy, in the morning and at noon, before and after a meal, during the repose of sleep, and agitation of the emotions and passions of the mind, and in the states of menstruation and pregnancy. Investigations thus made will teach us that many sensations produced by the arterial pulse, and which are considered as morbid, are evidences of, or at least associated with a healthy and physiological condition of the organs. Let, for example, the pulse of a person, languid and faint from hunger, be compared with that of the same person after a full meal, and we shall find in the first what, if met with in a disordered state of the system, would seem to constitute an urgent call for potential stimulus, and in the latter a no less pressing demand for venesection.

Another series of indications for the cure of disease are furnished by *the state of the nervous system.*

A knowledge of the periodicity of the functions is of primary importance when we would study the derangements of the nervous system. The alternations of waking and sleep, of vividness of impression and obtuseness of sensation, are natural physiological conditions presented at regular intervals, and are not only the effects of exhaustion from excitement during the day, and accumulated susceptibility by rest during the night, but also of certain internal changes and more especially those occasioned by the digestive process. It is not necessary for our present purpose to inquire into the state of the brain during sleep, and the share which the sympathetic has in producing somnolency. It is enough for us to know that exercise of the nervous and muscular systems in mental and bodily labour, and of the alimentary canal in the digestion of aliment, are the circumstances under which sleep is most evidently effected. The former will cause sleep before a meal, the latter after one: that produced by the first is never long nor oppressive, but leaves the individual refreshed and ready to act with alacrity; that

which is caused by the second is manifestly the direct consequence of stimulation of the gastric surface; it is heavy and long, and often followed by feelings of oppression and disinclination to thought and motion. The more nutritious and stimulating the ingesta, the greater is the tendency to sleep; and when increased beyond measure or of unusual quality, they produce drowsiness, and yet deprive a person of the ability of enjoying sound and refreshing slumber. He is insensible to surrounding objects, and yet he is ever and anon turning and tossing in his bed, and disturbed with frightful dreams: he awakes in the morning drowsy and unrefreshed, and still prone once again to doze. Who will not vouch for the correctness of this picture, since who has not suffered in this way from an occasional excess in the pleasures of the table, by eating either too hearty a dinner or a supper, to which he had been unaccustomed? In spirituous drinks and opium we have agents capable of producing nearly the same effects, but in a more remarkable, and at times, pathological degree. The variety of ingesta which can give rise to the above phenomena is so great, that we cannot suppose in them any specific effect, more than engaging in vivid action the expanded sensitive surface of the stomach—an action which may even be continued after the removal of the material exciting agents. Let there be then from any cause a congested state of the mucous digestive surface, and the brain will be liable to be thrown into a state of sleep, varying in its profoundness according to the prior states of the gastric and cerebral organs, and the amount and vivacity of the stimulation from other parts. The counterpart of the disturbed sleep from indigestion is met with in febrile diseases; as when the patient is in a state of continued dozing, with incoherent mutterings and jerking of particular parts of the body. The means of relief are the same in both; and consist in withholding whatever shall oppress the stomach by its volume, or irritate it by its chemical or physical properties, and giving in lieu thereof the simplest, blandest drinks. If the pathological state have been long declared, so that the diseased organs have become centres of afflux of blood, we are admonished with sufficient clearness to diminish in a direct manner the quantity of this fluid by detracting it from the circulation, and more especially from the vessels of the part, or of those with which the latter more directly sympathises.

The two physiological conditions for the excitation of any portion of the nervous system are, stimulus applied to a sentient surface or

extremities of the nerves, and the afflux of blood to it. A pathological state of the nervous system or of any part marked by pain and continued irritation is sustained by one or both of these two conditions being in excess; and whenever there is disorder of a sense or of the intellect, we may be assured that its removal will depend on withholding the external stimulus, and diminishing the momentum of the internal one, that is, of the blood. However much the part is enfeebled in function, we can only hope for the restoration of its strength by allowing it rest. To renew or vary the stimulus is but to aggravate the disease. Thus, suppose the eyes to be fatigued by long continued gazing at luminous objects, the ear by listening to loud and varied sounds, we do not hope to impart strength to these organs by continuing to expose them to their accustomed stimulus, nor by exciting the other senses, but by allowing them entire rest in darkness and silence. The same law applies to the brain; which, fatigued by the operation of intellect and the play of contending passions, can only be renovated by repose, and withholding all objects or allusions calculated to excite its languid functions. Neither the pleasures of sight or sound, nor of gastric stimulation, by aliment and vinous and alcoholic liquors, are calculated to give it strength for the performance of its office. All attempts of this nature have only driven it to abnormal displays of energy, ending in insanity and complete abolition of function. Still less can we hope, by these means, to restore it to equable and healthy action in cases where we feel and know that it is the centre of a morbid afflux of blood, which stimulates to an irregular and often involuntary exercise of the mental faculties. How is relief to be obtained for him who, though he may still be considered as in a physiological state, suffers every evening from flushed face, throbbing carotids and temporals, pulsations and singing in the ears? Assuredly not by the use of wine or ardent spirits, or porter, or tea, or coffee, or by rich nutritious food and condiments. We know the surface to the stimulation of which the brain most readily responds—we feel by a very short analysis that it is the gastric, and we discover very soon the means of relief in withholding all stimuli from this surface. Precisely the same reasoning and the same analysis of the evident phenomena, viz. of symptoms, ought to guide us in the treatment of diseases in which the disturbances of the nervous system are most prominent. If at all benefited by the lights of physiology and the lessons of experience, the physician must insist, in cerebral disease, on withholding

the customary stimuli from the gastro-intestinal sense, with as much solicitude as he would from the senses commonly so called. Whether in raging or muttering delirium, the brain cannot recover its functions, except by allowing it respite and protection from those stimuli which would of themselves promptly bring on these disorders in a healthy subject, and the operation of which must be doubly pernicious in a diseased one. The disturbances of the nervous system, and the symptoms manifested by it in disease, can then only furnish us with therapeutical indications of the same nature, and about which there can be no difference of opinion so long as men draw inferences from the known and established; that is from physiology rather than from a conjectural pathology.

If, not entirely satisfied with the force of the comparisons between the healthy and morbid states of the nervous system, we desire more direct evidence and means of measuring the energy of this latter and its functional aberrations, we can have our wishes gratified by studying the muscular system. The various senses are so many sentinels to the condition of the brain, and channels for conveying its feelings and resolves: they aid us greatly in our diagnosis of its maladies, as does also the condition of the intellectual and affective faculties. But these are not always indicative of various shades of disease and partial disturbances, which it is incumbent on us to know. Our wants in this particular will be fully met by attention to the muscular system; which is at all times in direct and immediate dependence on the nervous. The common movements of volition evince this with sufficient clearness: and the fact is placed beyond all doubt by what transpires after any irritation of the brain or spinal marrow, whether in experiments on animals or injuries received by our own species. So soon as these parts are irritated by mechanical or chemical agents, or by particular vegetable stimuli, the muscles are promptly brought into contraction. Muscular motion then necessarily implies an active and excited state of the nervous system at the time; and hence convulsive movements, general or partial, presume at once irritation of the nervous. The muscular system, in its alternate states of action and repose, is as clear an index to the condition of the brain and spinal marrow as is the pulse to that of the heart. Of course when we meet with a patient who has great restlessness, jactitation, followed by subsultus tendinum, we infer at once the existence of cerebral excitement; to diminish which becomes the principal indication, in these cases, for the employment of

therapeutical agents. So, on the other hand, when we find inability to move the muscles under the influence of the will, we immediately infer enfeebled power in the nervous centre,—feebleness, with the exception of some rare cases of direct exhaustion from excessive loss of blood, the consequence of an undue afflux of this fluid to the brain and spinal marrow, or of thickening of the investing membranes, by all of which these nervous masses are made to suffer from pressure, and are rendered incompetent to transmit the necessary stimulation to the muscles. Normal contraction, convulsive and violent movements, and partial and complete paralysis are but successive effects of stimulation, irritation, pressure, and altered structure of the central nervous masses. This pathology, deduced from the physiology of observation and experiment, furnishes a guide to therapeutics, which cannot mislead us.

Pursuing our inquiries, we discover that although muscular movements are always the immediate effect of stimulation from the cerebro-spinal axis, yet they do not necessarily imply an active and primary irritation of this part—its consent is all paramount, but this is at times forced by irritation from any portion of the sensitive expansions throughout the body. Thus disorders of the cutaneous or mucous surfaces or of any of the senses are capable of producing convulsions; that is to say, are productive of such painful irritations as to force the brain to repeat and transmit them by means of the nerves to the muscular system. Teething in children, worms, unripe fruit, and poisons in the alimentary canal are examples in point. Much has been said and written on what are called nervous diseases and nervous symptoms. An examination of the functions of the nervous system, and comparative trials of the sensibility of the nervous chords and their expansions, (that of the first being almost null while that of the last is very active,) lead to the conclusion that the nerves properly so called are passive agents in the phenomena of health and the disturbances of disease. Our attention must then be restricted to what takes place on their sensitive expansions on the surfaces and on the organs, and in their central masses or points of union. Primary stimulations always effected on the former are transmitted to the latter or cerebro-spinal axis; where, if feeble, no cognizance is taken of them, if stronger, they produce sensation followed, if need be, by voluntary movements. Supposing the stimulations to be more violent and sustained, the brain is forced to transmit them in an involuntary manner, and there result irregular movements in

the muscles, and convulsions. Still the muscles are the index to the state of the brain; and the only difference in this case from the first already referred to is, that this organ transmits to the muscles the irritation sent to it from other organs in place of immediately radiating its own. If we except the efforts of volition, there is no spontaneous action in the nervous system by which the muscular is made to move. In all other instances, and these include every irregular movement of the muscles, as hysteria, chorea, epilepsy, tetanus, convulsions in children,—restlessness, jactitation, subsultus tendinum in the fevers of adults, there is a foreign material agency forcing the nervous centre. An analysis of the symptoms will teach us how far this forced state is due to an afflux of blood to the brain, foreign bodies pressing on and wounding it, thickening and engorgement of its membranes, or to a morbid stimulus operating on some portion or point of the sensitive expansions. The indications of cure now become clear and satisfactory: they will not consist in quieting spasm and pain by adding medicinal to morbid, diffusible to local stimuli, or in deadening sensation by means of sedatives, but in removing and withholding all substances of this nature, and allowing the excitable part to recover itself so as to receive its degree of normal stimulation. Supposing for example, in hysteria and hypochondriasis, the brain to be in the same state throughout the course of these maladies, in regard to its impressibility and transmitting power, the amount of irritation evinced in the muscular system will be dependent on that transmitted from other organs, and chiefly from the alimentary canal and the senses, by the channel already indicated. The sooner of course we restore these latter to their physiological state, the sooner will the brain, that is the mind, be tranquil, and the movements of the muscles be in regular order. As already remarked, there is not at this time any spontaneous action of the nervous system influencing in a secondary manner the muscular: the cause is foreign or extraneous. Now it is not difficult *à priori* to say which is the natural method of cure under such circumstances: to withhold all matters or agencies susceptible of forcing these two systems to abnormal action, or prodigally to administer stimuli or irritants which are acknowledged to be capable of exciting these parts in an inordinate and painful manner.

Did time and space allow, an instructive review might be taken of the phenomena of secretion, the functions of the senses, the influence of habit on the animal economy, and the operation of hygieinic

agents; with the effect of exhibiting the necessary connexion between physiology and therapeutics, and the fallacies of reasoning and dangerous errors in practice when we would attempt to dissever these two branches of medical science.

ARTICLE V.—*Beobachtungen und Bemerkungen über das Wesen und der Behandlung der Coxalgia. Von Dr* MAXIMILIAN JOSEPH SPITZER, *&c.**

Observations and Remarks on the Nature and Treatment of Coxalgia. By MAXIMILIAN JOSEPH SPITZER, M.D. *formerly Senior Physician to the Chief Hospital of the Garrison of Vienna, and now Physician in Ordinary to the Princess Dietrichstein.*

Various have been the methods of treating coxalgia, and we have had occasion to see the success of each particular treatment carefully noted and set forth. Thus professor RUST asserts that he has witnessed the application of the actual cautery attended with prompt success, and an effect experienced even during the operation—all which many other physicians declare that they never could observe, and that no notable effect followed its use. The same discrepancies of opinion are known to have prevailed respecting the earlier methods of treatment. I have myself treated many cases of this malady in former years with alternate success and failure. But since I have observed that this disease, as to its nature and character, is not always identical, and that the elongation of the limb is not always dependent on an inflammation of the joint, and even in this latter case the causes of the disease are numerous, and since I have adapted the treatment to its different varieties, I have been more successful.

In those cases in which the habit of body of the patient, the cause

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* This is another original essay, the manuscript of which was transmitted to us through the medium of Dr LA ROCHE, and which we have translated for the present occasion.—We hope to be able to present our readers from time to time with similar valuable articles from our European correspondents.—[ED.]

of the disease, the violence of the symptoms, and the rapid progress of the disease, led me to suppose an acute inflammation, I was very successful by following up the antiphlogistic treatment, by general and local bleeding. In other cases where the mildness of the symptoms and the slow advance of the disease rather indicated a lingering chronic inflammation in the interior of the joint, there was commonly depraved digestion discovered to be the foundation of the disease, against which the appropriate treatment was successfully directed. For this purpose mercurial frictions were generally very serviceable to me, so as to produce a copious salivation; aided by a regular diet and the use of the warm bath.

But when I saw from the preceding diseases and the manner in which they had been treated, as likewise from the progress and treatment of the existing disease, and from the appearance and condition of the patient, that the depraved digestion, by which the disease was produced, had become complicated with a mercurial cachexia, or that this latter was the cause of the coxalgia, then I used chiefly the muriate of gold, by friction to the under surface of the tongue, with frequent success.

A constant purging does, we know, in certain cases complicated with imperfect assimilation, produce wonderful effects, if the strength of the sick person will allow of it. But if all these means have already been used without success, I consider the disease to be a slow habitual inflammation, which may even still persist after the chief cause has been long removed; and I endeavour, by means of an issue, the moxa, or actual cautery, to direct the disease outwards. The latter remedy, which is a very powerful one, gives often, in these circumstances, relief after all other remedies have been tried in vain. The effect is not however beneficially evidenced immediately on its application, but only when suppuration has been kept up for some time from the spot after the eschar has come away.

If the spontaneous elongation comes on gradually, and is unconnected with pain, and even though the patient is unable to move the limb freely, yet if he can tolerate without much inconvenience the motion given to it by another person, and allow, without much pain, the pressure of the trochanter of the diseased limb towards the pelvis, and if he only feels a weakness and dragging of the limb when he endeavours to assume an upright position, and if he has a feeling as if the limb would fall out of the joint, he the patient being at the same time healthy, and the disease the consequence of an ex-

ternal injury, as by dragging and torsion, or if the disease has returned after the reduction of the dislocated limb, or after a rigid antiphlogistic regimen has been premised, the cause of the disease is to be sought for in the muscles. In such a state of things friction, with spirituous tinctures, resinous plasters, electricity and galvanism, are the chief remedies. Sometimes, though rarely in cases of this kind, we are required to have recourse to moxa and the actual cautery to excite the parts, torpid by long inactivity; and then, according to my experience, the success of the remedy is prompt and infallible. I mean to say that, during the operation of the burning, the muscles contract with such violence that they restore with a jerk, as it were, the head of the bone into the socket from which it had been displaced, and the limb thus gains at once its normal length. Entire rest of the limb must however be enjoined in order that there may be no relapse; for it must ever be held in mind that absolute repose is an indispensable condition for the successful treatment of all diseases of the joints. It follows therefore that the limb must be kept for a length of time motionless, by means of suitable bandaging, especially if the malady be of an inflammatory kind.

From all that has been already said, we very clearly discover that all those morbid elongations of the femoral portion of the limb which, during the application of the cautery, were removed, are not the consequence of an inflammatory swelling of the joint, but that they are due to a primary disease of those muscles, or most of them which have their origin in the pelvis, and are inserted into the femur, and especially of the gluteal muscles. All these muscles have, in their normal contractility, besides the function of moving the femur, the office of keeping the head of the pendent limb in its socket, and almost of themselves to bear it; so that by a morbid defect of the permanent power of contraction, (for I observe in the muscles a periodical voluntary and a permanent involuntary contraction upon which their harmonious action is founded,) the whole weight of the lower extremity into which these muscles are inserted remains hanging by the capsule of the hip joint; since the round ligament has no share in preventing the escape of the head from the acetabulum. This is clearly seen by dissections when we cut asunder the capsular ligament: then, notwithstanding the round ligament remains intact, the head of the bone falls out of its socket, and the round ligament is found only to prevent the escape of the head of the bone in that perpendicular direction in which the weight

of the whole body is concentrated in a point on the socket, and rests on the head of the joint, viz. upwards and backwards. The weakened state of the muscles of the part allowing the lower extremity therefore to hang entirely by its capsular ligament, this becomes more and more distended, and the head of the bone tends more and more to escape from its socket, the axis of the two bones still retaining however its normal direction in reference to the adjoining healthy parts. In this case it is easy for us to understand that if the attrition and friction of the extremities in constituting the joint have not been too long suspended, so that abnormal depositions of calcareous matter on the head of the femur or the socket, or other disorganisations of the ligaments, have not taken place, and if the morbid state of the muscles arise from a deficiency of susceptibility to the usual nervous excitement, then a strong artificial stimulus, as for example, of the actual cautery, or the moxa, may be applied with great advantage. If a want of reaction exist in the muscles, then the introduction of a stream of electricity or galvanism, which would still more efficiently and permanently excite the muscles, as likewise the application of plasters composed of resinous and metallic substances, and which therefore develop electricity and galvanism, so also the rubbing with volatile and stimulating remedies, would not be without utility.

But in coxalgia as we commonly understand it, in which the elongation of the limb is the consequence of an inflammatory swelling of the joints of the hip, here the above mentioned remedies would not only be of no avail, but even very injurious. In such case the cautery can only be serviceable in as far as it produces an external inflammation and suppuration, and thus carries the disease outwardly; so also on the same ground the moxa, the running blister, and the seton will be useful. A sudden cure in elongations of the thigh, the nature of which consists in an inflammatory swelling of the hip joint, is, in my opinion, by the laws of mechanic chemistry and dynamics, absolutely impossible.

ARTICLE VI.—*Cases of Gangrene of the Throat, indicating a Treatment by the Use of Calomel. In a Letter from* THEOPHILUS R. BEESLEY, M.D. *of Salem, New Jersey, to Dr* CASPAR WISTAR, *of this City.*

In pursuance of a long-delayed intention to prepare for publication those anomalous cases of disease which were formerly mentioned to thee, I shall now endeavour to draw them off in a regular form.

My principal motive in offering them, is the hope that they may afford some useful hints in respect to the methodus medendi, and lead to a more complete history of this form of disease. I regret that I made no post mortem examination in the two cases which proved fatal. It may be proper to mention that cases 1 and 2 were noted down after their termination, but whilst the circumstances attending them were fresh in my memory: part of case 3 and the whole of case 4 were noted down daily during the continuance of the disease.

Case 1. On the 12th of the 11th mo. 1826, I was requested to visit a child of a respectable farmer, who resided a few miles from Salem.

After arriving at his house, my attention was first directed to his daughter, aged about three years. She had been seized the day previous with a chill, followed by considerable fever. Her breath was observed by her father, with whom she slept, to be extremely unpleasant. She passed an uneasy night, and in the morning, on examination, an ulcer was perceptible in her throat, which they supposed to be the "*canker*." Alarmed at the laborious respiration of the child, her parents about noon resolved to obtain the aid of a physician; but owing to an accidental circumstance, I did not see her until night. I was immediately struck with the great difficulty of breathing; and, on examining her throat, observed an ulcer on each tonsil gland, about half an inch in diameter, covered with a dirty white or ash coloured substance, which adhered to the surface of the ulcer, bearing some resemblance to the slough which covers cankerous ulcers in their incipient stage. The tonsils were swelled; and a dark red inflammation extended to the adjacent parts, and particularly down the pharynx.

There evidently was great disease about the glottis and epiglottis; as the swelling of the tonsils was insufficient to produce the dis-

tressing difficulty of breathing, which even then was very laborious, and kept the little patient roving about to obtain fresh air. Her skin was dry, her face slightly mottled from inability to inhale air sufficient for the due aeration of the blood, and her tongue was covered with a white fur, such as we usually observe in the early stages of intermittents. She complained of very little pain, and took notice of her playthings.

Her pulse was smaller, quicker, and rather more frequent than natural; her hands and feet were cool, but the body was warm; her appetite nearly lost.

She had appeared quite well until yesterday noon; and had been exposed to a cold damp air for several hours during the preceding day, while accompanying her brothers, who were at work in a field.

The state of her respiration was so alarming, that I thought it right to state to the parents of the child my fears of a fatal issue. Although I could not consider it as a genuine case of canker, the appearance of the ulcer so much resembled it, that I was induced to use the local application which has been found so useful in that disease.

I directed her to take immediately a dose of calomel and rhubarb; and, as soon as it could be obtained, to make the application of a strong wash of sulphate of copper, powdered Lima bark, and honey, to the ulcers.

The next morning I found the child evidently much worse, her respiration increasingly difficult, and the ulcers more extensive. She had taken the purge, which operated readily three or four times; but the gargle had not been properly applied, owing to her resistance. The febrile action continued about the same.

Her case appearing so alarming and unusual, I requested an early consultation; and two hours afterward met my friend Dr Keasbey, whose opinions coincided with mine as to the danger of the case. We took into consideration the propriety of laryngotomy; but from the uncertainty of the extent and duration of a disease new to both of us, could not feel ourselves warranted in advising it, although there seemed great probability of the child's dying, exhausted for want of air and by laborious respiration; which accordingly occurred that night about 12 o'clock.

Case 2. At my first visit above mentioned, I was also requested to examine one of their sons, aged about ten years. He had been taken, about three hours before, with a chill, and complained a little

of his throat. Considerable febrile action was now present; his skin, pulse, and tongue resembled those of his sister; but the affection of the throat was confined to one tonsil, and not more than one fourth of an inch in diameter, and appeared white and only skin deep. The tonsils were slightly enlarged, and of a dark red colour, except the white spot. The breath was much less fetid than his sister's. His breathing was quite free, but his voice seemed a little altered, as we often observe in cases of swelled tonsils. Judging the case to be similar in nature to the last, except that the disease had extended in the boy to less important parts, I directed the same remedies. The succeeding morning I was informed that his purge had operated, and the gargle been repeatedly applied to his ulcer. On examination, this appeared to have extended its destructive action wider and deeper, and the opposite tonsil showed incipient disease, appearing, on a small part of its surface, as if covered by a very thin white pellicle, slightly transparent, so as to show the red colour of the tonsil behind it. This thin, white, semi-transparent appearance of the lining membrane of the fauces I believe to be the first symptom of approaching ulceration; as I had occasion repeatedly to remark in watching the progress of the ulceration and its attack on other portions of the posterior fauces. His breath had now become quite fetid, but his febrile symptoms were milder. His skin continued uniformly dry throughout the continuance of his disease. The expression of his countenance was lively, and he seemed to enjoy his play. Although his appetite was diminished, it was yet considerable; and his ulcer was attended with so little pain for several days, that he could eat a dry cracker or bear the swab applied without complaint.

The gargle of sulphate of copper, &c. was directed to be continued, and occasionally one of a decoction of the prinos verticillatus or black alder; he also took half a grain of sulphate of quinine every two hours.

On the 14th of the month, his symptoms not being more favourable, an infusion of Cayenne pepper was tried as a gargle. The following day, as the case appeared both obstinate and unusual, it was concluded to request the attendance of Dr J. Vanmeter; who at first supposed that he had met with a similar case, but at the next visit was convinced to the contrary. The symptoms were much the same, except the continued extension of the ulcers: the substance with which the worst one was filled seemed in some

places nearly of a pearly white, and projected above the edges of the ulcer, adhering very firmly. When a portion of it was brought away by means of a dressing forceps, it exhibited marks of attachment to the red flesh below, and was very fetid, having the odour of dead animal matter. The disease had now begun to attack the velum pendulum palati. His breathing was not attended with difficulty when sitting up; but when asleep he snored and was very restless, tossing about and talking.

The vitriol gargle was directed to be applied three or four times a day, and in the intervals a decoction of black alder with carbonate of potash in solution.

The sulphate of quinine was increased in quantity, and Lima bark given in Madeira wine. He was also directed to take the yolks of eggs and wine frequently through the day. His bowels had been opened once or twice a day since the first purge ; and the discharges were stated to be sometimes natural, at other times altered in appearance, but always unnaturally fetid.

From this period until the 18th, the symptoms seemed rather more favourable ; his strength and appetite improved, his ulcers did not extend, and some white sloughs had separated, leaving a darkened, swollen, and tender state of the tonsils and half arches ; but the inflammation had extended into the nasal cavities. He took daily twelve grains of sulphate of quinine in divided doses ; half a drachm of Lima bark with half an ounce of serpentaria virginiana in decoction, and half a pint of wine, with several eggs. His bowels continued to be opened two or three times a day—the appearance and odour as before mentioned. From a fear of increasing his debility by much purging, he has taken but one purge of calomel and rhubarb since the commencement, and this produced no marked effect. I sincerely regret that purges were not more fully used in this case, as subsequent experience has shewn the advantage to be derived from their judicious exhibition.

On the 18th, there was a considerable discharge from the nostrils of a thin puriform fluid, which soon excited considerable tenderness in those parts. Fumigations with the smoke of burning wool were tried to remove this symptom, but without any benefit. He began to refuse his medicines; which was soon followed by an evident increase of debility.

On the 19th the discharge from the nostrils had much increased, occasionally exhibiting a tinge of blood ; and his nostrils seemed more

stopped up. He was also less inclined to join in the diversions of the other children and more fretful, but still continued to walk about the room the most of the day.

The puriform discharge had diminished on the 20th; but that of blood increased, and some of it finding its way into the stomach kept him in a state of nausea and dislike to food, and occasionally excited vomiting. A blister, which had been applied to his throat in pursuance to advice in a consultation, began now to assume a gangrenous aspect. Petechiæ also made their appearance in his skin, his spittle was sanious, and his breath had the odour of putrid blood. Indeed he was a distressing spectacle; emaciated, pale, the blood dropping from his mouth and nose, he seldom raised his head from its drooping posture, and the sprightliness of his countenance was changed to the gloom of despondency.

This condition of things continued gradually to increase until the evening of the 22d; when he suddenly cried out "Oh my back!" as if in great pain, raised himself in bed, grasped violently the hands of his parents and expired. Soon after he ceased to breathe, blood issued from his penis. May not this have come from the rupture of a blood vessel in one of the kidneys at the time of his death?

Case 3. The next day after the death of F., another child of the same parents named A., aged about five years, was taken with a chill, which they at first supposed to be owing to a severe burn on one of his feet; but, on examining his throat, it was found ulcerated and his breath fetid. I saw him on the 24th of the 11th month, and found the disease to be similar to the two fatal cases just related.

This case took a middle course between the two preceding ones, both as to rapidity and direction; but the state of his respiration, skin, pulse, sleep, and bowels was the same. His appetite was lessened, but for several days he continued to have some. He commenced by taking a purge of calomel and rhubarb, and was put on the tonic plan, and gargles of decoction of black alder and carbonate of potash were applied to the throat. The ulcers and the inflammation however continued to spread and become more alarming, and the breathing grew more laborious.

The two physicians, who had been called in consultation in the two former cases, having never before seen any similar to them, and the plans of treatment proving ineffectual, Dr Irving was re-

quested to attend this case with me, which he did until it appeared nearly hopeless.

He met me on the 30th, and proposed a sudorific plan, with the previous use of an emetic. A. took an emetic of ipecacuanha, was put into a warm bath, and was removed thence and placed between blankets, but no diaphoresis resulted. On the 31st this process was again repeated, with the substitution of an emetic of tartar emetic instead of the ipecacuanha; but the same ill success followed.

The tonics and gargle still continued.

On the 4th of the 12th month, we applied lunar caustic to the ulcers, in order to alter the local diseased action in the ulcers; this was applied repeatedly and copiously, but with little if any advantage. Six or seven grains of the sulphate of quinine were taken by the patient daily; besides a volatile mixture.

On the 6th, the ulceration had involved both tonsils and the uvula, and had appeared on the back part of the pharynx, the inflammation extending downwards; his nose was apparently free of disease.

The 7th of the month found him worse: his coughing and breathing were distressing last night. He talks much in his sleep; and cannot swallow solid food without pain, but took panada with an appetite: he loses flesh rapidly, but is yet able to walk about. Breathing croupy; bowels opened twice a day. Having examined the discharges from the bowels, I found that one of the stools had the appearance of vitiated greenish bile and the other was mucous; both small. Suspecting from their appearance there might be a deficiency as well as a morbid alteration of the hepatic secretion, and finding every method which had been used utterly unavailing in curing this alarming complaint, I determined to try the effect of large doses of calomel. Having previously obtained the consent of his mother, I directed him to take a powder composed of calomel five grains, antimonial powder three grains, powdered opium one eighth of a grain, three times a day: to omit all other internal medicine, as great difficulty existed in getting him to swallow any. The ulcers were again touched with lunar caustic.

8th of the month. His breathing has been exceedingly laborious through the day; had two stools since yesterday; ulcers no better. The burn on the foot has now put on the appearance of a gangrenous ulcer.—Calomel powders to be continued as before directed.

On the 9th I went, scarcely expecting to find him alive.—Never

did I see more exertion of the chest to inhale air than in this poor little fellow, the perspiration was forced out in great drops in this painful struggle. He had taken but one calomel powder since yesterday. He refused both gargles and powders.—Continue the calomel powders three times a day.

10th. He seems better—his breathing having been much relieved last night by the discharge of a white fetid substance. The ulcers look rather better: has had two stools of the same unnatural appearance.—Continue the calomel powders as before.

11th. His ulcers looked still better; croupy cough continues, but his breathing is more free. Skin moister; had four bilious stools last night. ℞. Calomel, grs. v.

12th. The calomel operated three times, stools green. His throat appears much better; ulcers nearly healed; skin moist; tongue nearly clean; appetite improving. Left him five grains of calomel to take tomorrow morning. From this period, under the use of gentle tonics, he continued to convalesce rapidly, so that in a few days medical attendance became unnecessary.

The result of this last case was very gratifying to me; inducing me to hope for more success in the treatment of this malignant disease, which until this period had proved fatal in all the cases that had occurred in this neighbourhood. During my attendance on this child, I was informed of two cases which had appeared in the children of a labouring man of Salem, about one year before the death of R.'s children. One of the children was about two years, and the other four years old. They both died from suffocation, after an illness of three or four days continuance. They were under the care of Dr Robert Vanmeter. Their treatment I have not learned. The cases occurred two weeks apart.

The next case after R.'s children came under the care of my friend Dr Keasbey of this place, who adopted the calomel plan, combined with salts. The patient recovered.

Case 4. The next case, which I shall minutely relate, occurred in the family of my brother in law C. W. of Mannington. His daughter, aged nine years, was taken on 6th day, the 14th of the 12th mo. 1827, with a chill whilst at school, to which she had walked through a cold, damp wind; and did not go to warm herself whilst there. She had some fever, but did not confine herself to her bed. The day following she complained of her throat feeling sore, but it

was not examined until the morning of the 19th, when the ulcer was discovered.

I saw her about 11 o'clock, and the moment I examined her throat and smelt the offensiveness of her breath, I recognised the nature of her disease. The left tonsil gland was covered to the size of a quarter of a dollar, with the same kind of dirty coloured slough, of an offensive odour, described in the preceding cases; the right tonsil, the uvula and back part of the pharynx had a dark red aspect. She complained of little pain, except in swallowing. Her countenance was pale, hands cool, pulse small and weak, skin dry, tongue slightly furred, gums sound, breath offensive as from a putrid substance, appetite gone, thirsty since her attack, appears dull and inactive.

℞. Calomel, grs. viii. immediately, to be followed in three hours by ʒiii. of sulphate of magnesia. Gargle her throat with hop tea sweetened with honey. At 10 o'clock, P.M. to take eight grains of calomel, and early the next morning to repeat the Epsom salts.

20th, 10 o'clock, A.M. Says she feels better, more colour in her cheek, spittle mostly frothy, probably from frequent spitting. The ulcer has rapidly extended to her other tonsil, the uvula, and a part of the pharynx with which the right tonsil is in contact. Complains of no soreness except in swallowing; tongue more furred.

℞. Strong decoction of black alder, ʒviii., salt of tartar, ʒii., honey, ʒss. for a gargle; to be frequently used and thrice a day applied with a swab to the ulcers. The first purgative operated three times, and she had four stools in the night and two this morning. Pulse weak and small, beating 110 in a minute. Weak, warm wine whey, a wine-glass-ful every two hours.—Calomel, five grains, opium, one quarter of a grain,—M.

5 o'clock, P.M. Patient feels better, hands warm, pulse stronger, cheeks a little flushed, more appetite, bowels open twice since last visit; stools white. Sloughs on the tonsils appear thinner and whiter and have not extended since the morning visit; breath less offensive. Repeat gargles frequently, always before eating, continue wine whey, and let her take calomel, grs. v. at bed time.

21st, 10 o'clock, A.M. Patient not quite so well, pulse weaker, disease in her throat has somewhat extended, dark redness extends over the half arches and back part of the pharynx. Skin cooler; rested well and talked but little in her sleep. She took but one wine-glass-ful of the wine whey, and gargled but once through the night,

and (through mistake) has not taken her calomel powder this morning; bowels opened but once; evacuation small, of a dark green colour. ℞. Calomel, grs. v. to be taken immediately, to be followed in two hours by a table spoonful of castor oil. Continue the wine whey and gargles as before directed.

7, P.M. Seems better; less disagreeable odour of her breath; general appearance much the same as at last report. She has lost much flesh since her attack. Skin always dry.—℞. Calomel, grs. v. at 10 o'clock, P.M., and three hours afterwards a dose of castor oil. Sulphate of quinine, gr. i. to be taken at bed time, and another in the morning: continue the whey and gargles. Repeat the calomel in the morning if not much better. She complains of more tenderness each time the swab is used; has some appetite for liquid, but not for solid food, and takes a soft boiled egg at mealtime.

22d, 10 o'clock, A.M. Ulcers much the same as yesterday, except that the uvula is rather more affected; bowels opened twice yesterday, and three times this morning; stools dark, green and small; general appearance much the same as yesterday. ℞. Calomel, grs. vii. thrice a day; increase the strength of the wine whey one third; and give the patient half a grain of sulphate of quinine every three hours. Continue gargles.

23d, 10 o'clock, A.M. Appearance of the ulcers much improved; that on the right tonsil clean, that on the left nearly so: the uvula also looks better. She had one small green stool last evening.—℞. Magnesia calcinata, two tea spoonfuls; continue the whey and quinine, and omit the calomel in the middle of the day and also the dose at night, if the ulcers are entirely clean. The countenance of the patient more lively, and she has also some increase of appetite. Her pulse still continued small and weak, and skin cool. She sits up or walks about frequently during the day.

24th, 11 o'clock, A.M. Patient appears much better; pulse stronger; countenance more lively; ulcers almost entirely clean, deep irregular pits in the tonsils; tongue clean at the edges; saliva more abundant, but gums not affected by the mercury. Her bowels have been opened twice by the magnesia; stools dark green; appetite poor. She took one dose of calomel last night and another this morning.—℞. Magnesia calcinata, two tea spoonfuls at bed time, unless the calomel operate several times on the bowels. Continue the quinine every four hours, and the gargles and whey as before; omit the calomel.

From this period, her convalescence was rapid, under the use of tonics, with an occasional laxative to keep the bowels regular, as they seemed disposed to costiveness.

On a review of these cases, it would seem that large and repeated doses of calomel appear to be of primary importance in their treatment, and that salivation is neither necessary nor desirable. It is probable, however, that both its purgative effect on the bowels and alterative or stimulating effect on the liver should be kept steadily in view. I should not hesitate, in cases similar to the first, to exhibit it still more boldly, and where the danger of suffocation seemed imminent, to open the trachea in order to gain time to obtain its powerful effect.

As to gargles, they appear to me of more importance in cleansing, than in curing the local affection of the throat; and they should be frequently repeated, in order that as little as possible of the putrid matter may get into the stomach.

The duration of the complaint depends much on the parts affected; and where the swelling and ulceration attacks the glottis or the epiglottis, this tends quickly to produce death by suffocation.

I hope the publication of these cases may have the effect of eliciting from some one, who has met, or who may hereafter meet, with those that are similar, a more elaborate and complete history.

Article VII.—*Remarks on Secale Cornutum, Ergot, or Spurred Rye. By* R. M. Huston, M.D. *Fellow of the College of Physicians.*

Read before the College August 26th, 1828.

As far back as the fifteenth century, the ergot, or spurred rye, was known to exert a very powerful influence upon the human system as well as upon that of brutes; for we find the production of epidemics, mortification of the limbs, convulsions, &c. was, at that period, as well as during the following centuries, unhesitatingly ascribed to it. It does not, however, appear to have been used in regular practice, until its recent introduction by Dr Stearns of New York.

It is true that RAY, in his "*Historia Plantarum*," speaks of its peculiar power of restraining "the flow of the lochia," but he does not state whether it was generally used for that purpose. His words are "Secalis mater dicuntur, et singulare præsidium ad compescendum lochiorum fluxum habentur."—Vol. II. p. 1241.

Its natural history has been so fully treated of, not only by the learned author just mentioned, but by a number of late writers in almost every modern language, especially in the French and American journals, as to render any attempt of the kind unnecessary on the present occasion. An excellent synopsis of all that is known on the subject may be found in the American Dispensatory of professor COXE.

Although the introduction of this article into regular practice is but of recent date, so decided has been its influence in the greater number of instances in which it has been used, that there is now scarcely a fact connected with the operation of medicines more fully acknowledged, particularly in this country, than its powerful and specific influence upon the gravid uterus. It is not therefore for the purpose of establishing this point that I shall call your attention to it on the present occasion, nor to attempt an explanation of the manner in which that influence is exerted, whether by a primary impression made upon the stomach and thence extending to the uterus by means of nervous sympathy, by travelling to it through the circulation, or in any of the ways employed to explain the modus operandi of medicines; but to inquire how far the action known and admitted to result from its administration to a parturient female, may be useful in facilitating delivery of the child, without endangering its safety; regarding on this, as on other occasions, the *cui bono* as a more useful and important point for consideration than the *quo modo*, however boundless and diversified its field of exploration.

The united testimony of many practitioners, who have used the ergot, establishes the following facts, viz. that when it is taken into the stomach of a parturient woman, in the dose of from ten to sixty grains, there very speedily follows an increased feeling of heat over the whole system; and at the same time a great augmentation of uterine action, manifested by greater frequency and force of the pains, often attended, when the dose is large, with nausea and vomiting. Some also affirm that it increases arterial action; which, from known results, reason would dictate as a probable consequence, although experience certainly demonstrates that the extent

of its influence, in this respect, is by no means proportioned to its other sensible effects.

Its influence on the system is indeed different from that of a positive or general stimulus, inasmuch as its effects appear to be almost wholly confined to the uterus. Nor is the action thus locally induced like that of other excitants of the same organ. "It is," as Dr Dewees justly observes in his late essay on the subject, "not only the alternate contraction that is increased by it, but the tonic is also powerfully augmented; differing in this respect from other stimuli, which may exert an influence upon this organ; such as opium, the oil of cinnamon, volatile alkali, &c. or the mechanical stimulus of the forceps, vectis, or the hand." All these means occasionally excite the uterus to complete and successful efforts, without, as Dr D. observes, at all exciting its tonic power. "Nay, says he, "we may with much truth declare, that inertia of this organ is very apt to follow their employment."

Hence we learn that the influence of ergot is both active and peculiar; and like all other powerful agents, its administration will necessarily be followed, in most instances, by much good, or great harm. When unskilfully used, it is aptly compared by Dr Church to a sword in the hands of a mad man; and I am firmly persuaded that thousands have fallen victims to this deadly weapon.

Before, however, proceeding to speak of its adaptation to the cases usually indicated by authors, it will be proper to say a few words in explanation of uterine action in the normal state, as well as in the less favourable circumstances under which the interference of art is demanded.

The fibrous tissue of the uterus is endowed with two different modes of action: one called its tonic action; the other, its alternate, spasmodic, or more properly, parturient action.

The first, or tonic action, it possesses in common with every other part of the living body. It is that power by which it is retained in its proper situation in the healthy unimpregnated female, and during the early months of gestation, and whereby it is restored to its primitive size and condition after parturition.

The alternate or parturient action is that series of contractions which takes place only during and immediately subsequent to parturition, or in cases of dysmenorrhœa, particularly when the artificial membrane exists; and by which the contents of the uterus are expelled, whether they be the fœtus and its connexions, coagula, or

the membranous matter spoken of. This action is manifested by a regular series of paroxysms of short duration, with intervals, generally of a few minutes, during which there is a complete intermission of the action.

The tonic action is characterised by a constant tendency of the parts to a natural and compact state, without paroxysms or pain. It exists in the greatest degree in those who lead an active and laborious life, and possess a muscular form; and is diminished by all the causes that debilitate and relax the system, as idleness and luxury, frequent child-bearing, and debilitating diseases, as dropsy and pulmonary consumption. Hence it must be evident that the tonic, and alternate or parturient actions, are wholly different, in the phenomena by which they are manifested, the offices which they perform, and the causes by which they are influenced.

Perhaps, however, the statement of a few known and acknowledged facts may render these positions more evident, and the conclusions which result more reasonable, than at first view they would appear.

The first position, viz. that there is a total dissimilarity in the phenomena by which the two actions are manifested, is a point on which all are agreed, and which the above history sufficiently exemplifies.

That they are intended for the attainment of different objects, scarcely needs any illustration. One preserves the parts in situ, both in the unimpregnated female and during the early months of gestation, protects the ovum from destruction by the force of gravity, and restores the parts to their natural situation after expulsion of the uterine contents. The other, viz. the parturient, produces exactly opposite consequences. It frequently displaces the uterus and thrusts it wholly into the vagina; it destroys the ovum in abortion; and it expels the fœtus at full term—not, however, until the tonic power of the os uteri and other soft parts has been sufficiently overcome by distention, pressure upon them, or relaxing means, as bleeding, &c. to enable it to triumph over their natural tonic resistance: so that these appear to be antagonizing powers.

This is further illustrated by the facts which shew them to be influenced by different causes.

We have seen, by the quotation from Dr Dewees, that many articles which excite the parturient paroxysms, rather dispose the uterus

to an atonic condition. The same thing results from bleeding; which, while it greatly relaxes the whole system, and thus suspends, to a certain extent, the tonic action of every part, often powerfully excites the alternate parturient contractions of the uterus.

This is every day confirmed by observation. In this city, a very large proportion of the tedious, difficult, and unfortunate cases in midwifery, occur among the coloured and Irish parts of our population. Such women are remarkable for their great muscular strength, and possess a tone and rigidity of every part that nearly bids defiance to all the means we can employ to overcome it; and yet those women have weak, trifling, and inefficient labour pains: nor do they alter until, by most active depletory means, or worn out by days and nights of restlessness, anxiety and fatigue, the system loses great part of its tone. On the contrary, the emaciated consumptive, or the spare and delicate city lady, has often the most rapid and efficient labour. Nor is the speedy termination of such cases solely from the want of resistance; for the uterine contractions are really powerful, as any one may convince himself, by placing his hand over the uterine globe, or his fingers against the presenting head, during a pain.

From these facts, we learn the necessity there is for the temporary suspension, to a considerable extent, of the tonicity of the parts concerned in parturition, in order to ensure a prompt and successful accouchement. Not only that we may avoid delay from the resistance which would otherwise be afforded by that state of the parts, but also the constant and long continued pressure which would thereby be exerted upon the fœtus, cord, and placenta; and that the whole nervous or motive energy of the parts may be concentrated in the parturient paroxysms, without any drawback from the co-existence of a different and antagonizing action.

A moment's reflection upon the known effects of ergot, will enable us to judge how far it is calculated to answer these indications.

The property for which it is most remarkable is that of increasing the tonic action of the uterus. This is agreeable to the testimony of Dr Dewees and almost every one who has written on the subject. This effect is known by the woman to whom it is given feeling very soon, not only the alternate contractions or labour pains increased, but *a constant cramp or tightness of the uterus*, which never leaves her for a moment, until the child is expelled, or the

effect of the medicine gradually dies away. If the hand be placed over the uterus in such a case, the latter will be found to be constantly hard, owing to a permanent or *tetanic* contraction of its fibres; whereas, in natural cases, the uterus hardens under the hand during a pain, and relaxes again as soon as its goes off: so completely indeed, that often we can trace the members of the child through the flaccid abdominal and uterine parietes, especially after the membranes have ruptured. The same thing is likewise proved by the very scanty discharge of blood which takes place at the time of parturition, even in cases where there is great constitutional predisposition to hemorrhage. If then it be true that the tonic contraction of the soft parts concerned in parturition, more especially the uterus, is neither a natural, nor, under ordinary circumstances, a desirable condition, until after delivery of the child; and if it be the principal tendency of ergot to excite or produce this state of the parts, the danger of administering it, even under the circumstances usually indicated by authors, must be sufficiently apparent.

It is upon the principles which have now been advanced, that I would attempt to explain the diversity of opinion that prevails as to the efficacy and safety of this drug; why some have supposed it to exert a poisonous influence upon the child, and particularly why so many unfortunate results have followed its use, even in the hands of some of our most careful and discerning practitioners. That this is true, I am assured by several gentlemen in this city, whose skill and experience in the management of such cases render them highly competent judges, and in whose reports the medical world repose, as I do, the fullest confidence.

My own experience with the article convinces me that it is a most dangerous and destructive drug. In making this declaration, as well as the statements that follow, I do it under the fullest sense of the great responsibility which every man ought to feel when giving testimony upon a subject which involves the lives of many of his fellow creatures; and it is this feeling, together with the firmest conviction that the medicine is now doing incalculable mischief, that impels me to the task of laying this paper before you*.

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* In no other place in the United States, nor perhaps in the world, is ergot so much praised, and by so distinguished men, as in Philadelphia; and in no other of the principal towns in the United States, as far as their bills of mortality have come under my notice, is the number of still-born children in so large a

In the course of the last thirteen years I have prescribed the article in a large number of cases; and I can solemnly declare that I have never given it to a woman in labour, excepting when the pains were trifling and ineffectual; nor then, until I had most satisfactorily ascertained that the head was well situated, the pelvis of good dimensions, the os uteri thoroughly dilated, and the external parts in a soft and yielding condition—having in all respects obeyed the injunctions given by Dr STEARNS, and reiterated by those who have written subsequently on the subject; and yet I must confess, that although the women all recovered, and generally without difficulty, I was compelled at last to use the forceps in several instances after the complete failure of the medicine, and when successful, the children were still-born in a proportion shocking to my feelings. There can scarcely be a doubt that many of the cases would have terminated as they did, under other treatment; but I do honestly believe that a much larger proportion would have been preserved by a more early resort to the forceps, without having used the ergot at all.

By some, perhaps, it will be said that I must have been either grossly injudicious or more than ordinarily unfortunate in the cases which fell under my care. To such I would reply, that like results have happened to others whom the world does not consider to be either rash or injudicious. In confirmation of which I will mention the following.

Of seven cases reported by Dr CHURCH, in his essay on ergot, there were but two live born children. It is true that he does not attribute the deaths that happened to the medicine; nor, I apprehend, do most of those who use the article.—The fact, however, is very striking.

Dr HOLCOMBE, in his letter to Dr DEWEES, published by the latter gentleman, uses the following language: "For some time I used the scruple doses, or corresponding doses of the decoction, which I am afraid are every where yet too common; but soon aban-

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proportion to the whole number of deaths! Indeed, this item in our bills of mortality has become so glaring as to attract the notice of the most cursory reader of our newspapers. For weeks in succession the editor of one of the daily papers of this city has been calling attention to this subject, and at a time too when fiercely engaged in one of the hottest political contests that have ever agitated this nation. Comment is unnecessary!

doned this practice *in consequence of several fatal demonstrations of its impropriety.*"

Without stopping to inquire into the advantage resulting from Dr HOLCOMBE's suggestion of substituting small doses, (which by the way was first recommended by Dr PRESCOTT,) I may remark that this dose, which caused "*several fatal demonstrations*" in his hands, is the very dose recommended by nearly every writer on the subject, and by Dr DEWEES, both in his note appended to Dr H.'s letter, and in his subsequent paper on the subject. How many more untold demonstrations of the same kind have happened, it is not difficult to conceive. Indeed, so decidedly pernicious has it been in the hands of some, that, unable to account for it in any other way, they have supposed it actually to have poisoned the child in utero; and Dr HOLCOMBE expresses his firm belief, in the letter already referred to, *from what he has* "*seen and heard*," that more children have already perished by the injudicious use of ergot, during the few years which have followed its introduction into the practice of this country, than have been sacrificed by the unwarrantable use of the crotchet for a century past!"

It is no set-off to say that Dr H. speaks only of its *injudicious* use; for that which he mainly combats as injudicious is *scruple doses*, the very thing which our most judicious writers recommend.

A reference to the paper of Dr WARD of New Jersey will shew, that the practice has been but little if at all more successful in his hands. But that I may not be tedious on this subject, I will only quote the remarks of one or two others of acknowledged authority, which come more directly to the point.

In a paper by Dr CHARLES HALL of St Albans, Vermont, published in the American Medical Review, Vol. II. and republished in France, with highly commendatory remarks, we find the following observations: "Although, in most cases of real labour, the child is forcibly propelled into the world, by the aid of this article, there are, nevertheless, instances in which its power is not exerted to this end. Instead of that powerful unceasing increase in the pains of labour, which so astonishingly expedites the expulsion of the fetus, *it sometimes excites constant distress of a general nature, without any apparent influence on the efforts of labour.* In cases where it does not favour immediate expulsion, *it seems to have a fatal tendency on the child; for, in such cases, the child is generally still-born.*" He further adds: "I have frequently had recourse to

it; and have learned, not only from my own experience, but from that of others, that it does not always increase the pains of travail; *that it is hazardous under any circumstances, and occasionally produces fatal effects.*"

Dr WILLIAM MOORE of New York, whom Dr HOSACK speaks of as an eminent and judicious practitioner, says, "IT APPEARS TO BE INJURIOUS TO THE CHILD AT ALL TIMES; for in every case in *which I have seen it exhibited, the child has been still-born; and in the greater part of them, it was not possible to restore it to life.*"

Dr HOSACK, in his letter to Dr HAMILTON of Edinburgh, on this subject, remarks, that in three cases in which he gave it, "Although no evidence existed, previous to the use of the medicine, that the fetus was not living, *in every case in which it was administered the child was still-born.*" In fact, so convinced is Dr HOSACK of this general consequence from the use of this article, that in the same letter he uses this emphatic language: "The ergot has been called, in some of the books, from its effects in hastening labour, the *pulvis ad partum;* as it regards the child, it may with almost equal truth be denominated the *pulvis ad mortem;* for I believe its operation, when sufficient to expel the child, in cases where nature is, alone, unequal to the task, is to produce so violent contraction of the womb, and consequent convolution and compression of the uterine vessels, as very much to impede, if not totally to interrupt, the circulation between the mother and child."

This explanation of the manner in which the fatal effects of ergot are produced, accords precisely with the views of Dr HALL and Dr WARD upon the subject. It is, however, probable that the mischief is not wholly chargeable to an interruption of the circulation from "convolution and compression of the uterine vessels," as expressed by Dr HOSACK; but is in great measure owing to the powerful and constant compression which the placenta suffers, between the firmly contracted uterus and the solid parts of the tightly compressed child; so that there is a total suppression of the important functions which this organ is known to perform before birth. It is likewise possible that some mischief may be caused by compression of the child's brain for a longer than ordinary period, from the permanent contraction of the uterus not suffering the head to recede at regular and ordinary intervals, so as to relieve this condition by the natural elasticity of the parts.

The question may perhaps be asked, why, if the soft parts of the

mother be properly dilated, the pelvis and child well proportioned, and the presentation natural, so powerful a contraction as has been spoken of, does not instantly complete the delivery, and thereby obviate the difficulties which have been complained of.

The experienced practitioner in midwifery well knows that the cases seldom happen in which the dilatation or dilatability of the parts is so great, even very shortly before delivery, as to take off *all* resistance; and that in the most favourable cases, where the os uteri is fully dilated, and the head just ready to pass through, with a soft and yielding condition of the perineal parts, it will still require several pretty good pains to accomplish delivery; and these will occupy, on an average, from twenty to forty minutes. Taking then the shortest period, we shall find that the interruption of breathing for that space, whether it be by submersion or hanging, will nearly always extinguish life: and decarbonization of the blood will not be more completely interrupted by either of these processes after birth, than it will be before that event, by the strong and constant compression of the placenta which has been adverted to.

The great error, however, consists in supposing that the whole force which bears upon the placenta and child, is employed in urging the latter into the world. That indeed is the case with the natural parturient paroxysms; but it is far different when the action induced is the result of ergot, or any other morbid excitant: there is in fact no more similarity than there is between the pain of colic and the regular peristaltic motion of the bowels. The cause in either case may sometimes increase the natural function by its powerful influence, and in both cases immense pain and mischief may be done, without at all producing that effect. As remarked by Dr Hall, "instead of that powerful, unceasing increase in the pains of labour, which so astonishingly expedites the expulsion of the fetus, it (ergot) sometimes excites constant distress of a general nature, without any apparent influence on the efforts of labour." To this observation of Dr Hall I may add, that it almost *always* produces the distress which he speaks of; and which has appeared to me, in some instances, to proceed from a permanent spasm, or real tetanic condition of the uterus. So that it is not difficult to perceive that this organ may be strongly contracted, without acting in the immediate direction of its axis, or of that of the pelvis; and thus both the uterine vessels and the placenta experience the most fatal compression.

I shall hardly perhaps do justice to this subject without acknowledging that the position assumed, of the fatal effects of ergot, is in opposition to the opinions and experience of some of the most eminent of the profession, particularly in this city—men who justly enjoy a most enviable share of public confidence and esteem. This discrepancy may perhaps be in part accounted for by the following circumstances: viz. the age, experience and acknowledged abilities of those gentlemen, cause them to move in a circle of business where every comfort and advantage which wealth can procure, are enjoyed, and where accidents, privations, excessive fatigue, and the many untoward circumstances which give rise to bad cases in the inferior walks of life, are seldom felt. Among that class of patients, from their general habits of ease and indulgence, there is necessarily a softness and flaccidity of the muscular system, which may admit, or even demand, the use of an article which so powerfully excites the tonic action of the uterus, and which from that very property, would be inapplicable to general practice. However this may be, I have stated the results of my experience and reflections upon the subject, and leave to others the task of confirming or refuting what I have advanced. And here I may remark, that so strong have been the assurances of several eminent practitioners who have written on this subject, and so great was my confidence in their reports, that for a long time I resisted the evidence of my own senses, and consoled myself with attributing the unfortunate results to other and unavoidable causes. Whether any others are pursuing the same course, it is not competent for me to say. There are few of us willing to believe that we have been, even innocently, the means of causing death; and it is far more agreeable to believe that such results proceed from causes beyond our control, than to attribute them to our own ill-timed, though well intended efforts.

I know full well that it is admitted by the admirers of ergot, that its improper use is doing incalculable mischief: this, being conceded on all hands, and being reprobated by all, constitutes no part of the object of this paper; which is to warn my fellow practitioners of the danger there is in using the article under *all* the restrictions usually imposed. Nor do I assert that when so used, it will always prove fatal, as apprehended by Dr Moore. I know to the contrary; but that it will very often, with all the prudence and circumspection

that can be used. Of course I am now speaking of its administration as a parturient.

I have no experience with ergot as an emmenagogue; but its utility in menorrhagia, which I have experienced, would seem to contraindicate it in the former capacity. We have seen that RAY speaks of it as being used in the latter case. Professor COXE, however, has, I believe, committed a mistake in quoting him as authority for its being "then used to excite the lochia;" which is one of the very few errors that occur in the valuable work of that learned author.

ARTICLE VIII.—*History of a Case of Masked Intermittent Fever, attended with Hiccup, Vomiting, and Black Discharges from the Bowels. By* PETER RICHELAN, *Ex-Physician of the French Grand Army, and of the Central Vaccine Committee of Paris; Corresponding Member of the Academy of Sciences of Turin, of the Society of Sciences and Arts of the Department of the Lower Rhine, and of the Society of Practical Medicine of Montpellier; Member of the Royal Society of Medicine of Marseilles, and of the Medical Society of Bordeaux, &c. &c.*

Mr Emanuel, a broker of Nice, aged forty-three years, of a nervo-sanguineous temperament, middle stature, and plump form, subject occasionally to vaporous affections, resembling those to which females are liable, and occasionally to hemorrhoidal swellings, father of twelve healthy children, had, for some years past, been attacked, during the summer, with an extensive erysipelas of the face, which, after having uniformly made the circuit of the head, disappeared in a fortnight, under no other treatment than diet, rest, diluents, and the use of some acidulous purgatives. Mr Emanuel, having served as a common soldier, in the Alps, had undergone excessive fatigues. On many occasions he bivouacked on the snow; and had, in consequence, in two instances, contracted a painful general rheumatism. For some years past, he had been affected with a tetter on the thigh; which had disappeared during the winter preceding the occurrence of the affection which is the subject of

the present paper, in consequence of the use of depurative and sudorific drinks, and of the application to the part affected of a reddish pomatum, the name and composition of which the patient did not know.

The erysipelas recurred in the face of this individual, about the beginning of August 1812. It did not cause much suffering, but was sufficiently remarkable in its effects. The practitioner who attended him, after having employed the measures which had been successful on previous occasions, found himself under the necessity of prescribing a grain of tartar emetic in the form of injection. This caused inordinate vomiting, and gave rise to a hiccup, which resisted the influence of large doses of laudanum. What a triumph this would have furnished for the followers of the physiological school! but happily this school was not then in vogue. Being called in at this date, now the eighth day of the disease, I found the patient nearly free from fever. His tongue was moist, and covered with a grayish-white fur, and his mouth was free from any bad taste. He was affected with a very frequent and fatiguing hiccup; attended at intervals with a rising of mouthfuls of vomit in quick succession, and by efforts to vomit. These symptoms led me to suspect that some stimulus was irritating the stomach. Meanwhile, these occurrences did not arrest the erysipelas, which pursued its course, ending in health, as on former occasions.

I had formed the hope of being useful to the patient, on witnessing the effect of the stimulus which irritated his stomach, by means of the diffusible gas which is extricated in the potion of Riverius, prepared with mint water, and a little laudanum, and taken at intervals; and a cataplasm of rice, made with three heads of the white poppy, applied hot to the gastric region. These measures, however, were resorted to without good effect. The erysipelas had now disappeared, and I observed that the hiccup had become worse and worse, and that it was accompanied by a violent and enormous vomiting. This vomiting was occasionally so distressing, and accompanied by such dreadful efforts, that it required strong attendants to support the patient; and the cries which he uttered were often heard to the third story. Occasionally, however, the vomiting was so easy, that the patient threw up, without the least effort, cupfuls of water, which he had swallowed, sometimes quite pure or mixed with green porraceous and acid matters, and at other

times, with a very bitter yellowish bile, having all the appearance of olive oil. The vomiting was ordinarily preceded by an abundant flow from the mouth of a slightly acid saliva. This symptom caused great distress to the patient. It was attended with thirst and much heat, and followed by an oppression, or more properly, a great uneasiness in the front of the chest, which the patient could not well describe. The fits of vomiting seized the patient more than twenty or thirty times in twenty-four hours; and after the twelfth day of the disease, they appeared often more intense from three to five o'clock in the afternoon, although they gave no respite at other periods of the day: in general, the fits of vomiting observed no regular periods. In the meantime, stools were very rare; and when they did occur, they consisted of a true bilious matter. The urine, which was scanty, was pretty thick, and of a very high colour. The patient was very much fatigued, as well with his violent efforts in vomiting, as by the intense heat of the season, which caused him to perspire profusely.

Towards the eighteenth day of the disease, the vomiting became so violent, that the patient threw up, after uncommon efforts, almost inconceivable, about a cupful of a brownish-black liquid, containing matter, which floated in part on the surface of the water of the tub, but of which the greater part precipitated. This matter was thick, soft, and, as it were, divided into numerous pellets. The portion which floated, and which owed its levity to admixture with mucosities, and bubbles of air, was of a fuliginous colour; the other portion was free from these mucosities, and exhibited a blacker hue. Both matters, according to the declaration of the patient, were acrid and corroding, and set his teeth on edge. The surface of his mouth, in consequence of the contact of the matter ejected, was excoriated and covered with aphthæ. The matter was not bilious; as it was entirely devoid of bitterness, and when dissolved in water, and applied to white linen, it did not communicate the greenish-yellow tinge which is produced by bilious matter. Besides, when mixed with water, it did not precipitate in the form of black scales. Neither did alcohol form with it a greenish tincture, nor give rise to a precipitate of minute brilliant scales, such as were discovered by Pelletier in the liver, and in biliary calculi. In addition to these proofs, the urine was not of a deep yellow colour; the bitterness in the mouth was not constant; there was no sensible fulness in the epigastrium, or right hypochondrium, and no icteric tinge in

the conjunctiva, face or breast. On the other hand, the matter ejected was not blood, either pure, or altered in consequence of a stasis which it might be supposed to undergo in the intestines; since there was no tension or sensible engorgement in the epigastrium or hypochondriacal regions, and the substance thrown up did not swim in water, and when diffused in that liquid, did not lose its colour, and become of a reddish hue. It was acid to the taste, and did not possess the smell of blood or its degenerations.

Influenced less by the idea that the vomited matter was blood than by the intention of preventing, under the circumstances of the efforts made, and in a temperament eminently sanguine, a sanguineous congestion and true phlegmasia in the viscera, thus violently agitated and compressed, I proposed, in a consultation which was called, to employ leeches to the anus, abundance of cooling drinks, enemata, gentle frictions to the extremities, and a blister to the epigastrium. These measures were in train of execution, and appeared for a time to suspend the black discharges, though the hiccup and vomiting continued as before. We had already employed the sirup of gum; whey slightly acidulated with cream of tartar; the potion of RIVERIUS, with a grain of extract of hyosciamus, every three hours, and afterwards, every hour, in a spoonful of water; fifteen drops of a preparation of one grain of belladonna in ʒiii of the distilled water of the lauro-cerasus; large doses of laudanum; warm baths; absorbents; gentle emetico-purgatives; repeated enemata; and a camphorated application to the epigastrium;—but all to no purpose. These various remedies either produced no effect, or at most but a transient benefit. The preparation which refreshed him the most (to use the expression of the patient himself) was the solution of the extract of belladonna in the laurel water; but even this I was obliged to lay aside; for when exhibited five or six times successively, it produced paleness, a universal debility, slight tremblings of the extremities and lips, and a certain confusion of intellect. Two days after the application of the leeches, the black vomiting having recurred, and all the symptoms appearing to be exasperated, I was induced to order a bleeding, and the blood exhibited the buffy coat. This was followed by another application of leeches to the anus; but no advantage resulted from these measures. These disappointments embarrassed me exceedingly in my attempts to assign some adequate cause for the disease; nevertheless, in consequence of my seeing the patient almost every moment

in the day, and many times during the night, I thought at last that I detected a slight chill, most perceptible in the extremities, and which lasted from six o'clock in the morning until two in the afternoon. I remarked, during this slight cold state, (which was not noticed by the patient himself unless his attention was called to it,) that, provided the hiccup and vomiting were absent, the alæ nasi would grow pale, and his pulse become slower and weaker, growing, after the lapse of a few hours, stronger and more frequent, in proportion as he became warmer. It was also observed, that the hiccup and vomiting, which existed in a slight degree at all hours of the day, were at this time more violent and frequent; that at night a sweat took place, during which, if the vomiting did not recur, the pulse, already quite weak and slow, would become as soft as possible; and that the urine deposited a lateritious sediment. All these circumstances led me to suppose, that the disease in question was in fact a masked intermittent fever. Nevertheless, as the hiccup, distress, and vomiting did not recur at regular periods, and as the indistinct movements of the fever observed might be merely symptomatic, I still felt some hesitation. It was on the correctness of the diagnosis that the recovery or death of a father of twelve children turned—of the head of a family, which had no other dependence than on his industry. The circumstances of the case did not permit me to suppose that the malady was a gastritis; because the efforts of vomiting were more violent, and less sustained, than those appropriate to a gastritis, and did not leave that feeling of uneasiness which is always their consequence in this phlegmasia; because their impetuosity did not correspond with the calm which the patient experienced when they were absent, nor with the indolent suppleness of the epigastrium, and of the abdomen generally; and finally, because a gastritis, capable of giving rise to symptoms of such intensity, could not have existed so long without producing a more formidable disease. I have been satisfied by experience, that irregularity, incoherence, and inordinateness of symptoms are more common in intermittent fevers than in any other class of diseases, but especially than in the phlegmasiæ. The appearance of a strongylus worm about this time in a bilious dejection, awakened my suspicions, that vermination or bile had some agency in the production of the symptoms; and I was induced to prescribe a decoction of tamarinds with

helminthocorton, which was soon laid aside by the patient, on account of its re-exciting the vomiting.

A third paroxysm of fever having taken place, more distinct than the preceding ones, and which occurred at the same hour, confirmed me in the belief that I had to contend with an intermittent fever, variously disguised by its symptoms. I reflected that misplaced intermittents had often occurred which were attended with singultus, that others were on record characterised by vomiting, and others again, by black discharges; what then could prevent these three forms of fever from co-existing in the same subject? These fevers, when separate, are dangerous; but they all yield to the power of the cinchona; and may they not, when combined, yield to the same remedy? We were then in the season characterised by the prevalence of intermittent fevers: the copiousness of the perspiration, possessing an acid smell, the softness of the pulse in the morning, the suppleness of the abdomen—all discountenanced the supposition of a visceral phlegmasia; but on the other hand, these symptoms indicated a paroxysmal fever. As, however, the constant constipation of the patient, and the irregularities in the occurrence of the anxiety, hiccup, and vomiting, did not permit me to be entirely at ease in regard to my views, I called together a numerous consultation to hear on these points the sentiments of my brethren. After much discussion, all parties agreed in my opinion, and I made my arrangements, the same evening, to give the patient the cinchona towards the latter part of the night. As to the irregularity in the appearance of the hiccup and vomiting, I had observed that the symptoms of masked fevers occurred without any exact periods, and nevertheless, as experience demonstrates, yield equally well to the bark. At the same time, I had the following remark of STRACK under my notice, contained in his observations on paroxysmal fevers, page 70. Speaking of the cephalalgia of these fevers, he says: "*ubi dolor circuitum non servat, sed contra confusis accessionibus continuat, et vago modo incedit, aut incerto tempore intenditur, difficilius cognitu est.*" Nevertheless, he cured it with cinchona.

Accordingly, after another inconsiderable application of leeches to the anus, in compliance with the opinion of others, a measure which I did not deem necessary, but which nevertheless seemed compatible with the strength and temperament of the patient, I gave him a drachm and a half of red bark, with a few grains of gum arabic, and two drops of laudanum. The patient, who had

vomited every thing else, retained this medicine very well; and it was repeated every two hours, or four or five times a day. The paroxysm of fever which was wont to appear at ten o'clock in the morning, did not return until the same hour at night; when it came on with more strongly marked febrile symptoms, which rendered the patient uneasy for the night. The next morning the patient was cool, with a soft and weak pulse, and the whole surface of his body covered with perspiration. As the constipation of the bowels continued, I directed an emollient clyster containing an ounce and a half of sulphate of magnesia, and increased the dose of the cinchona to two drachms and a half, adding to each dose a few grains of the sulphate, and repeating the mixture several times in the day. The hiccup, vomiting, and fever, did not recur during this day; but the bowels remained still closed. In consequence of this obstinate constipation, I the next morning reduced the cinchona, (but I fear too soon), to three doses, of a drachm each, for this day. The same treatment was pursued the next day; but to my great surprise, a new and unexpected attack came on at noon, with hiccup, evident coldness, and vomiting, and terminated in the evening by vomiting and afterwards copious perspiration. Mr Emanuel threw up the same black matter as formerly, mixed with the last doses of bark which he had taken before the paroxysm. The occurrence of this paroxysm, after the exhibition of about fifteen drachms of bark, discouraged my consulting brethren, who appeared to regret that they had so readily yielded to my views. They were inclined to consider the disease as a phlegmasia of the primæ viæ; against the existence of which my opinion was formed most decidedly. I was desirous of continuing the bark; though the doctrine, so much in vogue, contained in the "Phlegmasies Chroniques" of Dr Broussais, Vol. II. page 120, which I then had under my eye, was any thing but encouraging to my views. The temperament of the patient was sanguine; his humours were acrid; the heat of the weather, and the time of the year were such as to favour the development of the phlegmasiæ; and the constipation was obstinate. It was necessary, however, to adopt some course with promptness and decision, whether it eventuated in the death or recovery of the patient. Reviewing in my mind all the reasons which induced me to decide on a recourse to the bark, and recalling the numerous cases of this nature, in which I had succeeded with this admirable remedy, I came to the conclusion, that not a moment was to be

lost, but that it was necessary to persevere in its administration. My colleagues, after hearing my reasons, concurred once more in my views; and it was decided, at seven o'clock, while the paroxysm of fever by which I had been surprised was still existing, that at five o'clock the next morning, the patient should take four grains of the sulphate of quinia, in a cup of the decoction of two drachms of red bark in a pint of water, the dose to be repeated four times a day; and that, in addition to this, a small injection, containing two ounces of bark in powder, should be administered four times a day; and in the intervals of this, an injection of a decoction of two drachms of tobacco leaves. All the prescriptions were punctually attended to. The purgative enema produced a dejection, containing much stercoraceous matter; those prepared with the bark were retained, as well as the medicine given by the mouth. The paroxysm which should have come on at noon of this day, in due course, was missed, and never appeared afterwards. All the unpleasant symptoms of the disease subsequently disappeared; and Mr Emanuel entirely recovered, and has since enjoyed the best possible health*.

Nice, 27 *February*, 1828.

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* The author of the above essay does not, we hope, mean the reader to infer, from his strictures on and allusions to BROUSSAIS's views and practice, that he gave the latter a trial in the case of Mr Emanuel. After venesection, would have come repeated leeching of the epigastrium, the use of demulcent drinks, purgative enemata, and sinapisms or blisters to the extremities. The application of a blister to the epigastric region, the administration of narcotic medicines and emetico-purgative draughts would not have been called for in the opinion of a physician of the physiological school: they would only serve to irritate the stomach and cause a larger secretion of the dark matter described by the author. We have, during the last season, seen vomiting of blood and bile, which had been arrested by the application of fifty leeches in the epigastrium, sinapisms to the extremities, and the ingestion of warm water, brought back by a spoonful or two of a weak solution of sub-carbonate of potassa with gum arabic, cinnamon water, and laudanum; a mixture highly recommended by routine practitioners as a remedy for vomiting.

We are indebted to a friend for the English dress in which the memoir of Dr RICHELAN appears. To have published it in the original French, though perhaps a more flattering course to the author, would have been to render it less extensively read, and consequently less useful.—[ED.]

Analytical Reviews.

ARTICLE IX.—*Medico-Chirurgical Transactions, published by the Medical and Chirurgical Society of London. Vol. XIV. 8vo. Pp.* 463. *London*, 1828.

It has been heretofore the custom of the Medical and Chirurgical Society to publish each volume of their Transactions in two separate parts, allowing several months to intervene between the appearance of the first and that of the second. But "from the press of valuable matter," the president and council have been induced to publish the present volume entire. It is composed of ten papers, several of them on subjects of very great importance; an analysis of which we shall proceed now to lay before our readers.

The initial article is entitled, "*Observations on the nature and treatment of erysipelas;*" by W. LAWRENCE, Surgeon to St Bartholomew's Hospital, &c. &c. and occupies 207 pages. The views of a majority of medical writers in relation to the pathology of erysipelas have heretofore been vague, contradictory, and almost exclusively hypothetical: as a necessary consequence, its treatment has been unsettled and too often grossly empirical. Viewed on the one hand as a disease *sui generis*, its cure has been vainly sought for in specific remedies, while on the other, considered as an effect or at least an invariable indication of debility, in its treatment the bark, tonics, and even stimulants have been administered with a fatal profusion. Hence in many cases, in which, with rational views of its nature, the disease might have been speedily and effectually removed, it has been permitted either to destroy the life of the patient, or to proceed from bad to worse until nature herself has, after much suffering, effected a cure.

Within the few last years, however, in consequence of the general adoption of a more correct method of studying disease, according as it occurs in the different tissues and organs of the body, much of

the obscurity which had been thrown around the pathology of erysipelas has been removed, and a simple and efficient mode of treatment pointed out. For this we are in a great measure indebted to the labours of the physiological school of medicine; and it is probable that from the writings of individuals attached to this school Mr L. may have derived many of the views so ably defended and illustrated in the article before us. But whether his opinions were originally suggested by the observations of others, or entirely the fruit of his own, his memoir is not the less valuable :—it is certainly one of the most interesting and truly practical that has ever appeared on this disease.

After noticing the discrepancy of opinion which still prevails as to the nature and management of erysipelas, Mr L. remarks:

"By erysipelas I understand inflammation of the skin, either alone or in conjunction with that of the subjacent adipose and cellular tissue. Like other inflammations it varies in degree. When it affects the surface of the skin, which is red, not sensibly swelled, soft, and without vesication, it is called *erythema*. *Simple erysipelas* is a more violent cutaneous inflammation, attended with effusion into the cellular substance, and generally with vesication; *phlegmonous erysipelas* is the highest degree of the affection, involving the cellular and adipose membrane as well as the skin, and causing suppuration and mortification of the former."

We are presented next with an extremely clear, minute, and accurate description of the symptoms, progress, and effects of the two varieties of erysipelas, the simple and phlegmonous: this it would be impossible to condense, and our limits will not allow us to transcribe it entire.

The local symptoms, Mr L. remarks, are preceded and accompanied by fever, varying in its character according to the constitution, age, and general state of health of the patient. In the young, the robust, and those of a full habit, the attack, when severe, is ushered in by shivering, succeeded by increased heat, general uneasiness, lassitude, headache, loss of appetite, nausea, foul tongue, and constipation; and the general disturbance is of a decidedly inflammatory character.

"Often, particularly when the head is the seat of erysipelas, the sensorium is principally affected, and the symptoms are of the kind called nervous, such as pain and oppression of the head, sleepiness, coma or delirium. The tongue in such cases becomes dry and brown; but this state of the organ is often owing principally to the circumstance of the patient breathing through the mouth; the pulse

is rapid and feeble, and there is great loss of muscular strength; in short, the symptoms at length are those called typhoid. In other cases the circulation and the nervous system are not much affected; but there is pain in the epigastric region, foul tongue, with bad taste in the mouth, nausea and constipation; that is, so many indications of disordered stomach and intestinal canal, to which, as its cause, the local affection must be referred."

In relation to the all important question, "what is the seat and nature of erysipelas?" Mr L. notices the opinion of Mr HUTCHINSON, of Mr EARLE, and of Mr ARNOTT, who maintain that the aponeuroses of the muscles—the aponeurotic expansions and sheathes of tendons, and the subcutaneous tissue and fascia, are the principal seat of the disease; from this he entirely dissents, he having always found the parts referred to unaffected in examinations after death, and seen no symptoms referrible to an inflammation of them, during life. He admits, however, that they may become involved in the disease, in violent cases; and that they must suffer partially when the disease extends to the intermuscular cellular structure; but he contends, that they are not primarily affected even in these cases, and that in the majority of instances they do not suffer at all. With respect to his own opinion,

"A consideration," he remarks, "of the origin, development and effects of erysipelas, of all its phenomena, whether local or general, leads us irresistibly to the conclusion, that the nature of the affection is inflammatory. In its four leading characters, of redness, swelling, heat and pain, and in its effects, of effusion, suppuration, and sloughing, it agrees with what is called common or phlegmonous inflammation; while the general disturbance preceding and accompanying the local affection, is often exactly alike in the two cases. Erysipelas then is merely a particular modification of cutaneous, or cutaneous and cellular, inflammation. If we were to class these according to their natural affinities, we should place erysipelas between the exanthemata and phlegmon. It is less diffused than the former; not so circumscribed as the latter. The exanthemata are confined to the skin; erysipelas affects both skin and cellular structure; while phlegmon has its original seat in the latter, the skin being secondarily involved."

According to Mr L. erysipelatous and phlegmonous inflammation differ, not only in the original seat or degree of the disturbance, but also in kind. Generally speaking, phlegmon is a more violent inflammation than erysipelas; but sloughing of the cellular substance is more frequent in the latter than in the former. The most striking and important distinction between the two affections is in the

circumstance of the inflammation in phlegmon being confined to one spot, and distinctly circumscribed in its seat, in consequence of an effusion at its circumference of coagulating lymph: while in erysipelas, the inflammation is diffused, and spreads without limits; when pus is formed, it is not confined to one spot, but becomes extensively diffused in the cellular tissue;—the effusion in the latter being serous, instead of coagulating lymph.

Although Mr L. conceives that erysipelas must be viewed as a *peculiar modification* of inflammation of the skin and cellular texture, yet he can by no means agree with those who regard it as a *distinct species* of inflammation, and as capable in that character of affecting various parts of the body. The supposition that erysipelas may occur in the conjunctiva, the mouth, and fauces, in the respiratory and alimentary mucous surfaces, and in the serous membranes within the cranium, the chest, and abdomen, as held by many writers, even of a very recent period, he believes to have originated from erroneous opinions of the nature of the disease.

"Since the distinguishing characters of erysipelas are clearly referrible to the peculiarities of the cutaneous and cellular structures in which it occurs, we could not expect to meet with the same affection in parts so differently organized as serous membranes and the viscera. The texture of mucous membranes presents indeed some traits of analogy to that of the skin, and there is a corresponding conformity in some of its morbid phenomena. Thus, so far as organization is concerned, we might suppose that mucous membranes would be susceptible of erysipelatous inflammation; but we see nothing that is clearly referrible to this head, either during life or in examinations after death, although these membranes and the skin exert over each other, in many cases, a powerful sympathetic influence."

If the work of Dr Good is to be considered as presenting a fair view of the opinions of the medical profession generally in Great Britain, and this it professes to do, even at as late a period as the publication of the fifth edition, it will be found that erysipelas was considered as a disease of debility, calling loudly for a very early administration of the bark and other tonics. In our own country, this opinion has been long exploded by the great majority of physicians; and it is one strongly protested against by the writer of the article under review.

"I am quite at a loss," observes Mr L. "to discover in this affection those marks of debility which some have so much insisted on. Erysipelas, like any other inflammation, may occur in old and

feeble persons, and the effects of the disease, when aggravated by injudicious treatment, or protracted from any cause, will soon weaken the most robust; but however weak the patient, the local disturbance is one of excitement; there is increased activity in the circulation of the part, clearly marked by all the symptoms. Indeed, speaking of the part, I am unable to recognize debility as the cause of any inflammation whatever; and in reference to the seat of disease, I regard the expressions of passive and asthenic inflammation, and venous congestion, as either unmeaning, or calculated to convey erroneous notions."

Mr L. as we have already noticed, considers erysipelatous to differ from phlegmonous inflammation, not merely in its origin and in the degree of disturbance, but also in kind: he nevertheless remarks, subsequently, that in attempting to establish the distinction between erysipelas and phlegmon, we perceive a fresh proof that they do not differ in their "essential nature." For although, in well marked cases, the local symptoms of the two are strongly contrasted, yet there is a numerous class of cases, intermediate between these two extremes, in which we doubt whether the characters approach more nearly to the one or the other; while in some, there is an apparent mixture of both.

"Erysipelas is sometimes confined to one spot; while phlegmonous inflammation may extend in its circumference, attacking fresh parts successively, so as to produce a succession of suppurations, and thus spread over a large part, or even the whole of a limb. In chronic inflammations the distinction is more obscure; they often do not resemble the description either of phlegmon or erysipelas, but approach as nearly to one as to the other."

In a natural nosology, Mr L. would class erysipelas among the inflammations of the skin and cellular texture, immediately after *erythema;* to which latter he would refer slight superficial and partial inflammation, without swelling or fever. Erysipelas he would define

"Spreading inflammation of a considerable portion of the skin, with diffuse redness and swelling, sometimes preceded and generally accompanied by fever;"

of which he admits three species: namely,—

"1. *Erysipelas simplex.*—Superficial spreading inflammation of the skin, with bright scarlet or rosy redness, and soft tumefaction of the part, generally with vesications and fever.

"*Synonyma.*—*True* or *genuine erysipelas.*—*E. exanthematicum*, or *verum*, (Rust, of erysipelas of the face).

"*Varieties.*—*Acutum*, *chronicum; periodicum*, *habituale; per-*

stans or *fixum*; *ambulans* or *erraticum*; *saltans* or *volaticum*, (disappearing from its original seat, and re-appearing on a distant part); *miliare*, *vesiculosum*, *bullosum*, *phlyctenodes*; *idiopathicum*, *traumaticum*; *sympatheticum*, or *symptomaticum*; *biliosum*, *gastricum*.

"2. *E. Œdematodes*;—the swollen part dark red, and pitting on pressure.

"3. *E. Phlegmonosum*;—acute inflammation of the skin and cellular texture, with firm, general, and deep red swelling of the affected part, ending quickly in suppuration and sloughing.

"*Synonyma.—Diffuse cellular inflammation*, (EARLE). *Inflammation of the cellular texture*, (ARNOT). *Diffuse phlegmon*, (Baron DUPUYTREN). *E. Spurium* or *pseudo-erysipelas*, (RUST). *Phlegmon erysipelatosus*;" [*Phlegmone erysipelatosa*].

The causes of erysipelas, according to Mr L. are the same as those of other inflammations. In most cases, the biliary and digestive systems are more or less actively disordered; the cutaneous affection appearing to depend sometimes upon this disorder, and at others to excite it sympathetically.

When erysipelas is caused by the previous existence of disorder in some internal organ, Mr L. denominates it *sympathetic* or *symptomatic*, (*secondary*, *consensuale*, *deuteropathicum*). But when directly excited by external causes immediately acting on the part, as it is in a large proportion of cases, he then terms it *idiopathic*, (*primary*, *protopathicum*). Among the latter causes are enumerated, external irritants of all kinds; heat or cold; blisters, issues, setons, caustics, or other acrid matters applied to the skin; wounds, punctures, bruises, surgical operations, and all kinds of injury, (*traumatic E*) The mechanical or chemical irritation of wounds, ulcers, or other local diseases, will also cause erysipelas.

"Neglect of previous preparation, inattention to diet, injudicious modes of dressing, continued exercise of the affected part, and an imprudent degree of general exertion, are frequent causes," observes Mr L. "of erysipelas after operations and wounds, and in the course of ulcers and other local affections. When these several points are properly attended to, we shall not be much troubled with traumatic and hospital erysipelas.

"Irritating plasters, a heating mode of dressings, and tight bandaging, are common causes of erysipelas, whether in cases of wounds or operations. Light applications, and keeping the part cool, are simple but effectual preventatives. The most frequent source, however, of this affection, after accidents or operations, is improper diet; that is indulgence in animal food, or fermented li-

quors; and the surgeon is, in many cases, more to blame than the patient. He frequently does not enforce the necessary precautions and restrictions; and often appears as anxious, under the absurd fear of debility, that the use of meat, wine, and beer, should be renewed, as the patient or friends usually are. During the confinement consequent on a wound or operation, these articles should be prohibited; that should be the general rule, to which exceptions may be allowed under particular circumstances.

"Simple erysipelas, and those cases, more especially, which some writers have denominated the exanthematous, true, or genuine species of the complaint, are usually of the sympathetic kind, arising from internal causes, particularly from disorder of the primæ viæ or liver: hence the epithets *bilious* and *gastric*. As these causes are more or less permanent, they may produce repeated attacks of the disease, or render it of long duration: hence the expressions *periodic*, *chronic*, and *habitual erysipelas*.

"Phlegmonous erysipelas is more commonly idiopathic; it supervenes on the wound of venesection, on injuries of the superficial bursæ, as those of the patella and olecranon, on uncured and lacerated wounds, and compound fractures. An inflamed state of ulcers, especially in the lower extremities, is a common cause of it. This frequently comes on when large ulcers or extensive wounds are healing rapidly, in persons confined to bed, and allowed a full diet of meat and beer. It has often been produced by wounds received in dissection."

As erysipelas resembles other inflammations in its causes, symptoms, and effects, it is of course to be treated upon the same general principles; by bleeding, both general and local, purging, a low diet, followed by saline and diaphoretic medicines. These remedies are of course to be adapted, in the extent to which they are carried, to the circumstances of each case: the earlier in the attack they are resorted to the better; a vigorous treatment in the beginning frequently cutting it short, and preventing the disease from spreading beyond its original seat.

It is to be recollected, that in many instances erysipelas runs a certain course, and then terminates spontaneously; here all that is necessary is, to put the patient on a low diet, to clear the alimentary canal, and then to use mild aperients and diaphoretics.

When the disease depends, as it frequently does, upon an unhealthy condition of the digestive organs, the removal of the latter causes the cessation of the external disease. It is to be observed, however, Mr L. remarks, that the abstraction of blood is sometimes

useful, both in curing the internal cause of erysipelas, and in promoting the termination by resolution.

"The treatment of erysipelas," says our author, "like that of any other inflammation, must be modified according to the age, constitution, previous health and habits of the patient, and the period of the complaint. In asserting generally that the antiphlogistic treatment is proper, I speak of the beginning of the disease, when the original and proper character of the affection is apparent; and I am decidedly of opinion that, in some shape or degree, such treatment will always be beneficial in that stage. In many instances, active antiphlogistic measures are of the greatest service in lessening the severity both of the local and general symptoms. In others the administration of calomel with aperients, and of diaphoretics with low diet, will be sufficient. When the affection occurs in old and debilitated subjects, the powers of life are soon seriously impaired, and our efforts must be directed rather towards supporting them than combating the local affection. I have often seen such patients labouring under erysipelas of the face in its advanced stage, with rapid and feeble pulse, dry and brown tongue, recovered, under circumstances apparently desperate, by the free use of bark and wine.

"The cases of erysipelas which I have seen in young persons, have almost all proceeded from external causes, and required antiphlogistic treatment. The tonic and stimulating plan has been injurious to such patients under all circumstances."

In the milder cases of the disease, local bleeding will be sufficient, and in the more violent it is necessary as an auxiliary to venesection. Where practicable Mr L. conceives that cupping is more efficacious than leeching.

Most of our readers are aware of the dangerous consequences which have been apprehended by many, from the application of leeches upon parts affected with erysipelas: these apprehensions, Mr L. remarks very properly, are entirely groundless. Although when applied to the sound skin of certain individuals, leeches produce an effect analogous to erysipelas, they exert no similar influence over the inflamed skin, to which they may be applied freely and with safety. To produce any decided benefit they must be employed in large numbers.

In favour of the antiphlogistic treatment in erysipelas, Mr L. cites the authority of SYDENHAM, RICHTER, VOGEL, of the two FRANKS, of DUNCAN, Jun. of ROCHE, SANSON, and RAYER. The list might have been greatly extended. In this country, we believe there is but one sentiment upon this subject; we know of no re-

spectable practitioner who is not in the habit of treating erysipelas, so far at least as it respects the general remedies, precisely in the same manner as he would any other inflammation.

Mr L. has likewise noticed several highly respectable authorities against the use of the lancet in erysipelas; these are principally of comparatively modern date. Some of them not only object to evacuations of every kind, but recommend the administration of tonics and stimulants, such as the bark, ammonia, and wine.

"The direct opposition," he remarks, "both in opinion and practice, which the preceding quotations disclose, must appear very extraordinary, and not calculated to increase our confidence in medical doctrines. I see no mode of reconciling the difference. It is true that erysipelas goes through a certain course, and ends by resolution in many cases, not requiring any active treatment. Bark and ammonia would probably not materially alter the character and progress of the affection: it may be reasonably doubted whether these remedies, more especially the former, have so much influence on the system, as we are inclined to believe."

Emetics Mr L. considers to be useful, after the abstraction of blood, when the tongue is furred, and nausea or sickness of the stomach is present. When the latter symptoms are not accompanied by much febrile disturbance, the emetic plan, he thinks, may be pursued and followed by aperients and diaphoretics.

When, subsequently to the use of evacuations, the local disease continues, with a furred tongue and other symptoms of disorder of the digestive organs, Mr L. recommends the free use of calomel, either alone, or combined with James's powders. Two, three, or four grains of the former, and two, to three grains of the latter, may be given every six hours, for one, two or three days. The hydrargyrus cum creta might be used in the same way.

The remarks of our author in relation to the period of convalescence from erysipelas, are altogether sound, and in the highest degree important. While the state of medical practice in Great Britain, as we would judge from recent publications, calls loudly for them, we conceive that urging them upon the attention of physicians in this country, may not be altogether unnecessary.

By the means already pointed out, the inflammation being arrested, the patients, in many cases, will probably be reduced in strength, and may appear to demand a strong diet, and the administration of tonic remedies.

"Medical practitioners," remarks Mr L. "in general, are anxi-

ous to begin the strengthening plan; they seem to have the fear of debility constantly before their eyes, and lose no time in directing the employment of bark, and recommending animal food, with beer or wine. In this way relapses are frequently produced, the inflammation and fever are renewed, further local mischief is caused, and recovery is retarded. When, indeed, the redness and swelling of the part are gone, when the pulse is quiet, and the tongue clean, that is, *when the patient is well*, there can be no great objection to the bark."

When the disease has been arrested by active treatment, the natural powers of the system speedily restore its strength; tonics and a strengthening diet are unnecessary. In other cases the greatest caution is requisite in their employment.

"Sometimes they are at once obviously injurious; at others, they do good at first, but soon cause a return of the complaint if persevered in. It is safest, therefore, to leave them off as soon as the state of the pulse, or of the other symptoms, which have indicated their employment, is changed."

In cases where the propriety of stimuli is doubtful, Mr L. considers the sub-carbonate of ammonia the safest medicine. It may be given without risking the re-production of the inflammation, whilst in most cases, he observes, it is decidedly advantageous. Dr Peart and Mr Wilkinson regard it almost as a specific in scarlet fever and erysipelas.

"Bark comes next in order to the volatile alkali; and the sulphate of quinine is the most eligible form of the remedy. Wine is sometimes necessary; but it should be used very sparingly, and discontinued as soon as the necessity has ceased."

From local remedies, Mr L. would appear to expect but little advantage, excepting so far as they soothe the feelings of the patient. Previously to the full development of the inflammation, cold applications he thinks beneficial in reducing the sharp burning heat of the skin. There is no fear that the reduction by them of the external affection will cause inflammation of any internal part, provided their use is preceded and accompanied by a proper plan of general treatment. After the disease is fully developed, according to our author, warm applications, more especially fomentations, are very soothing. To derive the full benefit from them, we are directed to continue their use for several hours: in the intervals of fomentation, the part may be covered with a warm bread and water poultice.

A lotion, recommended by Mr Peart, consisting of sub-car-

bonate of ammonia and super-acetate of lead, of each, one drachm, rose water, one pint, is noticed as being highly extolled by Mr WILKINSON.

Judging from our own experience, we should say that one of the best applications to parts affected with erysipelas, is perfectly fresh hog's lard. This of course is not to supersede the employment of the general remedies called for by the symptoms of the case, nor when requisite, the local application of leeches or cups. We have employed the lard in a number of instances; in some of which the disease was of considerable extent and violence, and always with decided advantage.

Mr L. notices the application of blisters to the inflamed surface as employed in France, and sanctioned by the high authority of Baron DUPUYTREN. This practice is disapproved of by RAYER, and noticed by ROCHE and SANSON in a manner not calculated to recommend it. Our author does not appear to have had, himself, much experience of the effects of blisters in erysipelas; having employed them only three or four times, in cases of simple erysipelas of the extremities, applying the blister on the boundary of the inflamed and sound parts, so as to cover an equal portion of each.

"The inflammation," he remarks, "stopped in these instances; but, as other means were employed at the same time, I could not determine how much of the benefit was due to the blister; which, however, did not cause suppuration, nor any other unpleasant effect."

Mr HUTCHINSON recollects one instance in which a blister was applied completely round the arm, some little distance above the described line of demarcation, in which case, it "stopped, or seemed to stop, the progress of the disease; for the inflammation did not extend above the blister, and the patient recovered."

The local treatment just mentioned, is one in very common use among the practitioners of this country; and so far as we have been able to learn, the result of general experience is decidedly in its favour. In erysipelas of the face caused by punctured wounds of the scalp, Dr PHYSICK was accustomed to state, in his lectures on surgery, that he had frequently found a blister over the orifice of the puncture to be of great service.

Of compression, by means of bandages, applied throughout the whole length of the inflamed limb, which has been so extensively employed in France, by BRETONNEAU and VELPEAU, as a remedy

in erysipelas, Mr L. gives a very unfavourable opinion; in a case in which it was used by Dr DUNCAN, it caused a serious aggravation of the inflammation, and in the only instance in which the author has seen it tried, it produced a similar effect.

The treatment of *phlegmonous erysipelas*, in its early stages at least, is pretty much the same as that already recommended in the simple species; venesection, followed by the free application of leeches upon the affected part, with the antiphlogistic remedies generally.

"The bleeding of the leech bites should be encouraged by warm fomentations, and cold lotions may be afterwards applied to the part: when, however, the inflammation is more advanced, the latter must be exchanged for fomentations and poultices. After the bowels have been evacuated, calomel and antimony may be freely administered, accompanied with saline medicines. The local abstraction of blood is more serviceable than venesection; the latter, therefore, may be reserved for the instances in which the patient is young and plethoric, the pulse full and strong, or the head much affected."

If, however, we are unable to cut short the disease in its earliest stage, or if, as very frequently happens, the inflammation is fully established before we are called to the case, Mr L. remarks, that a continuance of direct depletion is of little avail in checking its further progress—the inflammation will still pursue its course, both in the cellular membrane and skin—suppuration and sloughing will speedily supervene, and soon extend over a large portion of a limb.

"Indeed," says Mr L. "I have found that venesection exerts but little influence over inflammation of the cellular texture, and therefore recommend its occasional employment, not so much with the view of arresting the local disorder, as on account of the feverish symptoms when they are considerable."

The means he recommends, under the above circumstances, for arresting the disease, is incisions through the inflamed skin and the subjacent adipose and cellular textures, which are the seat of the inflammation. The incisions are quickly, sometimes instantaneously, followed by relief; by a cessation of the pain and tension, and a corresponding interruption of the inflammation, whether it be in the stage of effusion, or in the more advanced period of suppuration and sloughing. But, according to Mr L. the immediate relief, however desirable, is of less consequence than the efficacy of the practice in preventing the further progress of the disease; which favourable result has, within his experience, never failed to occur,

when the case has been a proper one for the practice, and the state of the patient has admitted of its being fully tried.

"The treatment by incisions," he remarks, "is suited to various stages of the complaint; but it is employed to greatest advantage at the beginning, since it prevents the further extension of inflammation, and the occurrence of suppuration and sloughing. The redness and swelling gradually subside; the surface of the cut granulates, and it heals rapidly. At a more advanced period, the incisions limit the extent of suppuration and gangrene; and at a still later time, they afford the readiest outlet for matter and sloughs, and facilitate the commencement and progress of granulation and cicatrization. When the matter has been fully discharged, and the sloughs, whether of the skin or cellular membrane, have separated, a healthy granulating surface is left, and no great difficulty is experienced in effecting cicatrization, unless the destruction of the skin should have been very extensive, when the cicatrix forms slowly, and is liable to give way."

Mr L. does not advise incisions in erysipelas generally, but only in cases of the phlegmonous kind.

"He cannot, however," he observes, "determine our treatment merely by reference to the name of the affection." "The presence or absence of inflammation of the cellular structure, will not afford the criterion we are in search of on this occasion; indeed, the difference between simple and phlegmonous erysipelas, is rather in the degree than in the seat of the affection. Simple erysipelas seldom takes place without some inflammation of the cellular membrane."

Erysipelas of the face, according to our author, is commonly simple, and does not require incisions. But when the eyelids are affected, their abundant cellular structure becomes, not unfrequently, the seat of more severe inflammation, proceeding to suppuration and sloughing, and even causing partial sloughing of the skin. In these cases incisions will be proper.

The scalp may be the seat of either simple, or phlegmonous erysipelas: the former is to be treated by the ordinary antiphlogistic means.

"In the latter, there is at first a soft but considerable swelling, with slight discoloration of the integuments, which pit on pressure. Suppuration and sloughing soon come on, with great disturbance of the head, and violent fever; and these destructive processes spread over the whole head. The skin inflames and ulcerates at various points, giving issue to matter and sloughs."

Here Mr L. recommends incisions to be had recourse to as early

as possible—even at an advanced stage of the disease they will be productive of good effects.

The limbs, especially the lower, are the most common seat of phlegmonous erysipelas, which is at least very uncommon upon the trunk.

Subsequent to the incisions, until the bleeding has ceased, Mr L. directs the parts to be covered with cloths, wrung out from warm water; afterwards, a warm bread poultice may be applied. If a discharge do not occur, the wound should be dressed with the yellow basilicon ointment, or other stimulant, and covered with a poultice. When suppuration takes place, the matter finds a free outlet at the incisions; large portions of the cellular membrane often slough and come away with copious discharges of matter: to promote their separation, it is sometimes necessary to extend the incisions: when this is accomplished, especially when the skin has been extensively detached by sloughing of the cellular membrane, pressure by a bandage is very serviceable to promote the healing process.

Mr L. conceives that the benefit resulting from incisions in this disease, is to be attributed in part to the local depletion which they give rise to from the vessels of the inflamed part, and in part to the removal of the tension, which always exists in a greater or less degree.

"The circumstance of the blood being directly taken from the inflamed parts," Mr L. observes, "may account for its having an effect in lessening the inflammation, which would not be produced by taking a much larger quantity from the arm; and it will probably explain another fact, viz. that a very considerable bleeding in this way is not only safe, but advantageous, when the circulation is so much reduced, that general bleeding would be altogether inadmissible."

The great extent to which the hemorrhage from the incisions may proceed, renders it necessary, especially in elderly persons, or in those whose strength is already impaired by the disease or previous treatment, that the patient be closely watched until the bleeding has ceased. Should it become necessary to stop the further loss of blood, this may be readily accomplished by tying any bleeding vessels, by elevating the limb, or by pressure.

The introduction into England of the plan of treating phlegmonous erysipelas by incision, is attributed to Mr Copland Hutchinson; who in his "Practical Observations in Surgery," directs the

incisions to be made about an inch and a half in length; from two to four inches apart, and varied in number from four to eighteen, according to the extent of surface occupied by the disease. Mr L. has, however, found from repeated experience, a single incision, extending through the middle of the inflamed part, in a direction parallel to the long axis of the limb, to be quite sufficient.

"I have seen," he remarks, "phlegmonous erysipelas of the entire leg and thigh, when the aspect of the limb from enormous swelling, general redness, and vesication, was really appalling, suspended in the most decisive manner, by a single incision along the middle of the calf. Mr GUTHRIE has found that one or two long incisions accomplish every useful purpose, and has therefore adopted that plan. As the numerous short cuts, or the single longer incision, will equally answer the end, the selection may be left in each case to the patient or the surgeon. The incision should divide the skin and the cellular texture down to the fascia; it is not necessary to penetrate the latter. A double edged bistoury is the most convenient instrument for the purpose."

It is unnecessary, we conceive, to offer any apology to our readers for the length to which we have extended our notice of the paper of Mr LAWRENCE, or the frequent extracts which we have made from it. It is one in the highest degree interesting, containing few, if any, unimportant remarks; while the language is, for the most part, so concise as to preclude the possibility of further condensation.

To the essay are appended thirty-six cases of the various forms of erysipelas, and two of inflammation of the cellular structure; related to show the difference between that affection and phlegmonous erysipelas. These cases demand a close and attentive perusal in the form in which they are presented, as it is upon the facts developed by them that the author professes to have founded his opinions in regard to the disease of which he has treated.

On the treatment of erysipelas by numerous punctures in the affected part. By R. DOBSON, M.D. Physician to the Royal Hospital at Greenwich.—In this short paper, which is in the form of a letter to Mr LAWRENCE, the object of the writer is, as the title imports, solely to point out his method of treating every species of erysipelas, by means of numerous punctures into the affected part. The number varies according to the extent of the disease, from ten to fifty. The depth and extent of each puncture vary also, accord-

ing to circumstances: being made deeper when the parts are more tumid, but more superficial when the tumefaction is less. From two to four-tenths of an inch he gives as the medium depth.

"I repeat the punctures," he says, "to the number and extent required, mostly twice a day; and often, in bad cases, three or four times in the twenty-four hours; and in the whole course of this practice, which has been resorted to by me in several hundred cases, having adopted it more than a dozen years ago, I have never seen any bad consequence result from its employment. The quantity of fluid (for it is not blood alone, but blood and effused serum) which these punctures discharge, although sometimes considerable, need never create any alarm; for, however freely it may flow at first, it gradually diminishes, and soon spontaneously ceases."

He uses these punctures on every part of the body, and never more freely than about the eye-lids: they mostly heal in a few hours, and never entail any material marks upon the patient. When practised from the commencement of the disease, they very generally prevent the occurrence of suppuration; and they diminish its extent even in cases which have existed for some days, before it has been resorted to. When matter forms under the skin, he lets it out without delay, wherever it is felt; and he thinks, that the integuments in these cases are more preserved, by making several small openings than by one large incision, while the matter is quite as well evacuated.

"I am perfectly sure," he adds, "that, before suppuration, puncturing, which can be repeated again and again, as occasion may require, has every advantage over large openings, which, like punctures, cease to bleed before the disease is subdued, but which cannot like them, be renewed, and are often followed by extensive ulceration."

As adjuvants, Dr Dobson uses with the punctures a brisk cathartic of extract of colocynth, scammony and calomel; followed by a mixture of mistur. camphor. three fluid ounces; liq. ammon. acet. and tinct. rhei, of each one fluid ounce and a half; of which the dose is two table spoonfuls every three or four hours. He also employs the following lotion, viz.

℞. Liq. ammon. acet. ℥ss.; sp. camphor. ℥i.; aquæ puræ, ℥viii.—M.

Dr Dobson does not confine the practice of punctures to cases of erysipelas, he employs them also in every inflamed state of the skin requiring local depletion; and has found them exceedingly useful in the vicinity of old and irritable ulcers.

Case of erysipelas; with some remarks. By A. COPLAND HUTCHINSON, Esq. F.R.S.L. & E. &c. &c. The case related in this paper was one of erysipelas of the leg, occurring in an individual 52 years of age, of a spare relaxed habit, in consequence of a slight abrasion over the ridge of the right tibia. The inflammation appeared at first to be very slight, and of the erratic species: in a few days, however, the local symptoms put on a more unfavourable aspect; incisions were then made into the affected part, by which the disease was speedily subdued. In the remarks by which the history of the case is followed, Mr H. suggests whether a more early resort to incisions than is proposed by Mr LAWRENCE, viz. at the very onset of the inflammation, may not, in the great majority of instances, eventually prove to be the best and safest practice? And he protests loudly against the practice of making the incisions of the length Mr LAWRENCE has recommended; both as unnecessary, and less likely to stop the progress of the disease where it is spread over a wide surface, than several smaller incisions made on different parts, where the disease is found to be most active.

"For it will be seen," says Mr H. "by the closely observing surgeon, that when this disease runs on to suppuration or to gangrene, for example, abscesses or gangrenous patches are occasionally found to have taken place in different parts laterally distant, and having no communication with each other. Now if one long incision be made in a direct line through the middle of the inflamed surface, according to Mr L.; the disease may be still unsubdued, though greatly lessened on each side of it, to a certain distance. But supposing the disease be found to occupy a space from the great trochanter to the toes, including the whole circle of the thigh, leg, and foot, which I have witnessed in two or three cases, wherein eighteen incisions were certainly made of an inch and a half in length, will one or even two incisions of fourteen inches in length arrest such an extent of disease? my experience teaches me that they will not, and hence it is, that I have stated that in such desperate cases we must have recourse to such a number of small incisions, according to the extent of inflamed surface, as will arrest the disease."

Mr H. has never found a ligature necessary to repress the hemorrhage from these incisions; when as much blood has been allowed to flow as was desirable, he has very readily stopped its further discharge, by elevating the member operated upon above the centre of the circulation, and by applying moderate pressure.

Cases of tumours in the abdomen arising from organic disease of the stomach; with remarks. By EDWARD SEYMOUR, M.D. &c. The first of these cases occurred in St George's Hospital under the care of Dr CHAMBERS. The patient, an unmarried woman, 39 years of age, was admitted July 11th, 1827. She had for several years been subject to occasional pain in the abdomen—in the month of December preceding her admission, was attacked with vomiting of blood, diarrhea and violent pain of the belly—and for two months had perceived a tumour in the left hypochondrium, extending to the umbilicus. At the time of her admission the symptoms were as follows.

"The tumour, which is hard, unequal, and very tender on pressure, occupies the whole of the epigastric and the umbilical region, extending to within an inch of the symphysis pubis, and to the right iliac region; at this latter part (an inch to the right of the navel), it is more elevated, and there is a strong pulsation communicated through it. She vomits occasionally after taking food; sometimes when the stomach is empty. She describes what she vomits to be bitter and sour. Bowels very much relaxed; tongue clean and moist, and of the natural colour; no catamenia for three months; pulse 96, very weak; urine scanty; she is much emaciated."

The treatment in this case consisted principally in an attempt to allay vomiting by the effervescing mixture with tinct. opii; and in the application of leeches and fomentations to the abdomen. On the 17th of the month she commenced taking bismuth. subn. ℈ss. with pulv. tragacanth. c. grs. v. three times a day. On the 18th there appeared an equally diffused swelling about the right clavicle, extending to the right axilla and tender to the touch: the mammæ were unaffected; the right hand and arm œdematous. On the 23d she was directed to have, three times a day, one drop acidi hydrocyan. med. in barley water. On the 25th she died.

"*Sectio cadaveris.* The cardiac extremity of the stomach was healthy; but on cutting the anterior surface of the pyloric portion the coats were found considerably thickened, and on the inner surface an irregular tumour presented itself, occupying about two-thirds of the circumference of the stomach, and only leaving the anterior part free. The tumour began about the situation of the pylorus; its greatest length was about five inches, extending towards the left side. It projected about one inch into the interior of the stomach; the surface being very uneven, several round masses rising upwards from the body of the tumour. The surface was for the most part of a reddish yellow colour, some parts nearly brown, and here and there complete sloughs had been formed. The surface of the duo-

denum and stomach was very vascular around the tumour. In the centre of the tumour, an opening about an inch and a half in diameter, with sloughy circular margin, led backwards into a cavity containing about two ounces of fetid pus. The whole surface of the cavity being covered with a brown sloughy membrane like the margin of the opening; its parietes were formed by adhesions between the stomach, colon, and duodenum anteriorly, and by the spine behind. At the margin of the opening of the stomach nearest the duodenum, a sloughy tumour about the size of a small orange projected from the general mass into the abscess; and still more to the right side another large tumour was perceptible; both from the front of the abdomen and at the bottom of the diseased mass of the intestines and stomach, having the duodenum, colon, and stomach adhering to the anterior surface. This was the only part of the whole disease which had not ulcerated, and it seemed to be composed of glands united together; it was soft and pulpy and of a light colour, like the usual appearance of fungus hæmatodes. The remainder, where ulcerated, was also soft, and resembled very much the usual surface of a tumour composed of fungus hæmatodes when it has ulcerated through the common integuments."

The second case was in a gentleman 59 years of age, remarkably temperate in his habits. In November, 1825, he was affected with pain in the region of the bladder, particularly after voiding his urine, which was high coloured and deposited freely uric acid: from those symptoms he was speedily relieved by appropriate remedies. About November, 1826, he was occasionally troubled with water brash; which he described as a small portion of tasteless fluid rising occasionally into his mouth, unattended with pain or uneasiness of any kind. Otherwise he appeared to be in good health. On the 14th of March, 1827, this gentleman came under the care of Dr Seymour: his symptoms were then as follows:

"Bowels freely open" (from medicine administered the day before), "dejections loose, but of good colour, pulse 110, extremely weak, urine very turbid, tongue red and shining, appetite good, great sensation of debility, with an exsanguine appearance of the countenance, the less remarkable as the patient had always been unusually pale. About midway between the umbilicus and superior anterior spinous process of the left ilium, a tumour was observed of the size of a large orange, extremely hard, extending over, about half an inch, to the right umbilicus, and an inch below it. This tumour was adherent to the integuments, was rather moveable, and there was considerable tenderness on pressure. Notwithstanding the size of the tumour, its tenderness, and its prominent figure, the patient, until my examination, was totally ignorant of its existence

The apparently rapid growth of the tumour, its hardness and irregularity, combined with the bloodless appearance of the patient, and the great and sudden loss of strength experienced, induced Dr S. to believe that the disease was of a malignant nature."

A consultation took place in the evening with Dr NEVINSON, who agreed in opinion with Dr S. as to the character of the tumour, but neither was able to form any decision as to the viscera principally implicated. Leeches were directed to the tumour. Three grains of *pil. sap. cum opio* at bed time, and every four hours a mixture of *mist. camph. sp. æth. nitri* and *confect. aromat.* Light nourishment.

"15th. A consultation took place with Mr BRODIE, who agreed in the opinion that the disease was fungus hæmatodes. The leeches were ordered to be repeated. Evaporating lotions to the tumour. The internal medicine to be repeated. On the 18th, the tumour having increased, a consultation took place with Mr BRODIE and Sir A. COOPER. The latter gentleman was of opinion that the great intestine on the left side adhered to the parietes of the abdomen, that the inner coat had ulcerated, and a tumour was formed whose contents were gas, ill-conditioned matter, and fæces. Poultices and fomentations ordered—soap and opium pill repeated at bed time.—℞. Infus. gentian. c. ʒx. infus. rhei ʒii. pulv. ipec. c. opio gr. iii. subcarb. sodæ exsicc. grs. v.—M. f. h. ter die sumend.

"23d. Some fluctuation being perceived in the tumour, an opening was made to the left, a little above the umbilicus, with a lancet; about two ounces of fetid sanious pus escaped from the orifice. Some hemorrhage occurring, the pulse in the evening became extremely small and feeble, tongue red with a brown centre, countenance much sunk, bowels purged.—℞. Pulv. cret. c. ʒss. confect. arom. ʒi. t. opii gtt. v. mist. camphoræ ʒx.—M. f. h. 4tis horis sumend.—Vini rubri ʒii. ter in die.

"The relief experienced by letting out the confined matter was of very short duration. The tumour enlarged as the cavity of the abscess filled up, and the condition of the patient on the 17th of April was as follows: The tumour occupies the whole of the umbilical region, being about six inches in breadth, and four in length. No pain whatever is experienced on pressure, or at any period. The cavity of the abscess filled up about one half. Bowels slightly relaxed. No vomiting or nausea. Tongue clean, less red and shining. Appetite good. Sleeps well. Pulse 100; weak.—℞. Infus. cascarillæ ʒx. canell. alb. in pulv. ʒss. t. opii gtt. iii. syrupi ʒss. —M. f. haust. ter in die sumendus.

"It now appeared expedient," says Dr S., "to endeavour by all the means in our power to check the growth of the tumour; and in such a case, the various remedies which have been insisted on by authors, for promoting the dispersion or absorption of morbid

growths, were fairly to be tried, however small the hopes of success which resulted from their employment."

Accordingly several blisters were applied in succession over the tumour, without affording any advantage. On the 20th of May, a drachm of weak mercurial ointment was ordered to be rubbed in over the tumour daily, and three grains of blue pill given at bed time. The cascarilla and canella, from which the patient expressed himself to have derived relief, were continued.

"This course was persevered in for nearly three weeks, and given up without appearing to have in any way contributed to the diminution of the tumour, or the amendment of the patient's general health."

The iodine was next tried.

"Half a drachm of the ointment of hydriodate of potass was rubbed in every night and morning, and five drops of the tincture given twice in the day, for more than a fortnight; when the increased sense of fainting and diminution of the patient's strength obliged its discontinuance.

"The beneficial effect occasionally produced by the internal use of the caustic alkali, especially in steatomatous tumours, suggested the propriety of employing this remedy. Twenty drops liq. potassæ were ordered to be taken thrice daily, in a little barley water; this quantity being gradually increased to twenty-five minims five times in the twenty-four hours, which was borne without the slightest uneasiness. During three weeks that the use of this remedy was continued, a sensible amendment was perceived. Strength increased; the skin became of a healthier colour, and the tumour certainly was somewhat diminished. In consequence of this amended state, the patient left town for his seat in the country, in the middle of July."

The tumour increasing, and a return of the water brash, from which he had been wholly free for several months, caused the patient to return to London on the first of August. In consequence of his attention having been directed to the symptoms of the case first related, Dr S. was satisfied that the malignant growth was in the stomach, and accordingly informed the patient's friends. This opinion was confirmed in consultation by Mr Brodie and Dr Chambers.

"After the patient returned to London, the ext. conii and the liq. arsenicalis were employed in full doses, but without any perceptible good effect. The patient continued to decline, his hands and feet were œdematous, and his strength became so greatly impaired that he required the support of considerable quantity of stimulants, in order to maintain life and strength."

He expired on the 2d of October without pain.

"The most singular circumstance attending this case," remarks Dr S. "was the perfect manner in which digestion was performed during the progress of so extensive a disease of the stomach."—"At no period of the disease did he experience any pain after taking food: at no period was his food returned by vomiting. The only circumstance which could draw the attention of the physician to disease of the stomach was the water brash; but this occurred rarely, in very small quantities, and was attended with no pain. The appetite continued natural until two days before his death."

"The body was opened twenty-seven hours after death by Mr Brodie, assisted by Mr Cæsar Hawkins. On the external surface of the body several spots of purpura were perceived; and a tumour was easily felt through the parietes of the abdomen, with an opening in its centre, a little above and to the left side of the umbilicus, discharging some dark purulent fluid. The cavity of the abdomen contained about three quarts of water; on the removal of which, the tumour was found to be formed of the stomach, adhering extensively to the parietes, to which the transverse part of the colon and the omentum were also joined. The stomach was opened on the posterior part, and the cardiac portion and duodenum were found to be quite healthy, the pyloric half alone being the seat of disease. It appeared to consist of a thickening of the coats of this part of the stomach, in some parts above an inch in thickness, with an irregular tumour growing from its whole circumference, of the nature of fungus hæmatodes. The whole interior surface was ulcerated, and several portions of the tumour projected into the cavity of the stomach. The tumour was soft, and highly vascular in the inner part, and gradually became firmer and whiter towards the peritoneal surface, whence several white bands ran in an irregular manner towards the interior of the tumour. The anterior part of the stomach was the thickest, particularly where it adhered to the muscles of the abdomen; and in it several abscesses were discovered, one of the largest of which was the cavity in which the opening on the surface of the abdomen terminated. The œsophagus, near its junction with the stomach, contained a small cyst of fluid, resembling hydatid in appearance, and of the size of a filbert. The liver was rather darker than usual, but otherwise healthy, except that in the left lobe several tubercles were observed of the size of a pea, of a white colour, and of the consistency of soft cartilages. All the other viscera appeared sound."

The third case occurred under the care of Dr Hewitt, physician to St George's Hospital. The patient, 40 years of age, was admitted September 12th, 1827. The symptoms under which he laboured were those of indigestion, with costiveness of the bowels: pulse 100, regular and soft; tongue foul. On the 14th, he fainted

twice, from weakness, "not from pain, while making ineffectual efforts to pass the evacuations." Experienced no pain, excepting on forcible pressure about the epigastrium. Towards the right as well as left hypochondrium and umbilicus, there appeared to be some induration of the stomach and perhaps of the liver.

"He has a peculiar ex-sanguine appearance; but has never had any hæmorrhage. That the tumour is of a malignant character is rendered probable by the expression of countenance, the rapid emaciation, and general progress of the symptoms."

That scirrhus of the pyloric portion of the stomach existed to a considerable extent, was soon rendered evident. On the 14th of the month the patient was ordered fourteen drops of the solutio hydriodatis potassæ (hyd. pot. ʒss. aq. dist. ℥i.) every six hours; and at the same time took ext. conii gr. vi. between each dose of the solution. To keep the bowels soluble, an oleaginous enema was administered, and calomel by the mouth. Diet—beef tea. This plan was pursued, gradually augmenting the dose of the solution, until the 1st of October; with, as Dr S. expresses it, "at least no disadvantage."

"His bowels were regular; he was entirely free from pain, and he relished his food. On the 1st of October, he was attacked with diarrhœa, which caused the use of the solution to be suspended, and opiates substituted for it. The purging, though occasionally restrained, continued to increase, and he died, apparently exhausted, on the 15th of October."

Subsequently to the 14th of September, it was observed that a great mass of the tumour varied its situation according to the position of the body, "descending nearer the umbilicus if he sat up in his bed, and nearer the right or left hypochondrium, according as he lay on his right or left side."

"*Sectio cadaveris.*—The greater part of the stomach seemed healthy; but at the pylorus was found a tumour, as large as a man's fist, and nearly globular in shape; occupying the anterior and lower part of the pyloric extremity. A small part projected over and was attached to the duodenum; but most of the tumour formed part of the circumference of the stomach in the situation mentioned, leaving the posterior and upper part of the pylorus free from disease, not even thickened. The tumour, near its circumference, was hard, and white in texture, apparently attached only to the outer part of the coats of the stomach; but in the inner surface of the diseased mass the coat had ulcerated, and a sloughy mass was exposed, having a cavity in the centre, which communicated with the

cavity of the stomach, with irregular projections of a dark brown or blackish colour."

The arch of the colon was healthy, but adhering slightly to the tumor—a portion of the œsophagus cut off with the stomach, about an inch and a half in length, was much thickened and hardened in its muscular texture; the mucous coat was still healthy, as also was the cardiac portion of the stomach, where it joined the œsophagus.

"The liver had a large quantity of soft white tubercles, with yellow portions intermixed, and in some parts more vascular than usual. Where they were distinct, their diameter was one or two inches, and more vascular in the centre; many of these had coalesced, so as in some parts to lose the tubercular appearance. They were soft and easily broken down; and could readily be detached from the rest of the liver, which was quite healthy: the whole liver being enlarged, the actual quantity of healthy structure was not much less than natural.

"The transverse branches of the vena portæ seemed quite choked with a similar diseased structure, which adhered to the inner coat, and extended into many of the smaller branches, so that if a portion of tumour was torn, the vessels filled with the new structure could be separated from the actual tubercles, and were seen extending like chords into the healthy structure of the liver, although in a section it was difficult to distinguish the cut surface of the tumour in the vessels, from the tumour which was external to their coats. It was difficult to see any channel by which the blood could have passed, so completely were the branches of the vena portæ obstructed—yet in the healthy part of the liver the vessels were seen to be still pervious."

The tumours which were discovered in the liver in these two last cases are, according to Dr SEYMOUR, exactly the tumours described by LAENNEC and ANDRAL, under the name of *tumeurs encephaloides;* and of the symptoms of which, during life, and the appearances on dissection, the latter author has lately given a very detailed description in his valuable work, "Sur les Maladies Abdominales."

"There can be little doubt," says Dr SEYMOUR, "that the disease in the stomach and that in the liver, are of the same nature, modified only by the structure in which they are found, and (unlike true cancer, which appears often a local disease, affecting parts in juxtaposition, and secondarily, the constitution) to be the result of the same action of vessels, in different structures at the same time."

In proof of this position, he quotes several facts from different authors, which we cannot stop to notice.

The matter of fungus hæmatodes being found in veins unconnected with alteration of their coats, as occurred in the last of

the cases related by Dr SEYMOUR, and in the centre of large coagula, "consequently, probably, arising from an alteration in the chemical composition of the blood," has recently attracted the attention of the Académie de Médecine at Paris, in consequence of two papers on the subject, by M. VELPEAU*.

Our limits will not permit us to notice all the interesting remarks with which Dr S. has accompanied these cases; we can afford room only for the following:

"Before concluding, I may be permitted a few remarks on the treatment of a disease, which consists only, in our present state of knowledge, in the alleviation of pain, or in directing means to retard its progress. In several cases, I have found pain and vomiting, when they attend this affection, effectually relieved for a considerable time, by the administration of the prussic acid."—"In cases where pain and vomiting are not present, I should be induced to employ large doses of the liq. potassæ, from the advantage derived temporarily in the second case, even at an advanced period. I need scarcely observe, that this remedy is only adapted to similarly insensible tumours. Rest appears to be essentially necessary; exercise uniformly promoting the rapid increase of the disease."

The paper of Dr S. is accompanied by three plates, very elegantly coloured, illustrative of the diseased appearances observed after death, in the second and third cases which he has related.

Observations on depositions of pus and lymph occurring in the lungs and other viscera, after injuries of different parts of the body. By THOMAS ROSE, Esq. M.A., &c.—Pathologists and surgeons have long been aware that abscesses occasionally occur in some of the principal viscera of the thorax and abdomen, in consequence of injuries of the brain; and that from the same cause, purulent effusions sometimes take place into the cavities of the pleura. In the present paper, Mr ROSE has shown that it is not merely after injuries of the head, as the statements of authors would lead us to suppose, that such abscesses are formed, but that they equally follow wounds or injuries of other parts of the body. During the peninsular war, he met with several instances of their occurrence, particularly in the lungs, after amputation, and after other wounds of the extremities. He refers, also, to a case related by M. LARREY, in

* Revue Medicale, February and March, 1825.

the first volume of his "Mémoires de Chirurgie Militaire;" in which abscesses both in the lungs and liver followed amputation of the arm. Mr HENNEN has, likewise, given three interesting cases of the same nature, in his work on the "Principles of Military Surgery." Two were cases of disease of the lungs, and one of disease of the liver, all following amputation.

Mr ROSE has been unable to discover any peculiarity of constitution, which could be considered as predisposing to these occurrences: he has observed them in young and healthy individuals, who had never, until the period of the accidents, been affected with disease; in those who had been treated on the antiphlogistic plan throughout, in consequence of the nature of the accident they had experienced; and in others, in whom (in consequence of compound fracture for instance), immediately on the subsidence of the first inflammation, means were resorted to for supporting the strength of the system.

In all the cases which have occurred to him, the abscesses have taken place at some period between the end of the second and that of the fifth week, after the receipt of the injury which gave rise to them.

Mr ROSE is of opinion, that the theory advanced by DESAULT, which attributes the formation of these abscesses to the disturbance of the nervous system, resulting from the injury, is probably the only explanation which can be given of their cause.

"They are to be classed," he observes, "amongst the effects of constitutional irritation, arising from local injury, and are certainly striking illustrations of the irregular action in the vascular system to which that irritation may give rise."

The affections of the viscera referred to, have a peculiar character, which Mr R. conceives may in part be accounted for, from the rapidity with which, in the state of the constitution during which these abscesses occur, any congestion or inflammation, wherever situated, would be followed by effusion of purulent fluid and of lymph. But, although constitutional disturbance, evidently referrible to an unfavourable state of the wound, preceded, in all the cases which have come under his notice, the formation of the visceral disease, yet a favourable change has often, he remarks, taken place in the wound, before the symptoms of the internal abscess have begun to manifest themselves; the existence of the latter

being sometimes indicated by the presence of rigors, and other symptoms of suppurative fever, at a time when the wound itself is disposed to heal.

"The examination after death of those who have been affected with this disease, presents appearances," remarks this writer, "which are well worthy of notice, though it is difficult to convey a correct idea of them in words. The disease consists, apparently, of depositions in the cellular texture of the affected organ, partly of a white or yellowish coloured lymph, and partly of pus. These depositions vary in size from beyond the bulk of the largest walnut, to something less than a common pea. Where the lymph is most abundant, they may be described as a soft, white tubercle, of irregular shape; not contained in a cyst, but imbedded in the cellular substance of the part, and gradually blending with its natural structure. When pressed, some pus exudes from them. Where the pus collects in great quantity, it is lodged in an irregular cavity, probably in the middle of some of the tubercles, and the walls of the abscess are formed of flakes of lymph. The number of these tubercles and abscesses vary in different instances, there being sometimes only one or two, and sometimes the whole viscus being filled with them. In the lungs they are chiefly formed in the parts adjacent to the pleura pulmonalis; and there is often, at the same time, an effusion into the cavity of that membrane, of a sero-purulent fluid mixed with lymph. In the liver and spleen, they are dispersed throughout the substance, sometimes showing themselves in one or more yellowish patches, not elevated, on the convex surface of the great lobe of the former viscus, and at other times lodged in its substance. The parts adjacent to them show evident marks of increased vascularity."

In regard to the treatment, our efforts, according to Mr R. are to be directed, first to subdue any excess of arterial action, and, secondly, to quiet the disturbed state of the nervous system. When the abscesses are once formed, he believes with Desault, that they will be almost invariably fatal.

The minutes of four cases of this disease are next related, arising from injuries to different parts of the body, viz.

"Case 1. Abscesses in the lungs, with extravasation of lymph and pus into the cavities of the pleura, after wound and amputation of the arm.

"Case 2. Abscesses in the lungs, liver, and spleen, after compound fracture of the leg.

"Case 3. Abscesses in the lungs, liver, and articulation of the clavicle and sternum, with effusion into the cavity of the thorax, after a bruise and wound of the foot, and a fractured fibula.

"Case 4. Abscesses in the liver and spleen, after fracture of the scull, &c."

Three or four cases of a somewhat similar character are also related as communicated to the writer by Mr LAWRENCE. Two coloured plates accompany this paper, representing the appearance of the depositions treated of, as they occur in the lungs and liver.

An essay on a peculiar inflammatory disease of the eye, and on its mode of treatment. By WILLIAM WALLACE, M.R.I.A., &c.—The statements contained in this essay, so far at least as they relate to the treatment of the disease which it describes, are in direct opposition to all that we have been taught by the writings of HEWSON, SAUNDERS, TRAVERS, SCHMIDT, JACOBS, and others; and completely at variance with our own experience, and with all our views of the nature of inflammation, particularly when seated in the tissues of the eye, and of the remedies best adapted to its removal. They are, however, urged upon our attention as being strictly the result of experience; and we feel it our duty to lay an analysis of them before our readers, waiting the result of future and more extensive observations, to confirm their truth or point out their fallacy.

The aspect of the patient labouring under the form of ophthalmic inflammation referred to, is, we are told, peculiar, and when once seen is afterwards easily recognized.

"To those who have witnessed the venereal iritis," says the writer, "it may be observed, that there are many points of resemblance, as well in the style of the countenance, as in the appearance of the diseased organ. There is often that haggard and worn aspect, that sickly, mottled, pallid hue of skin, that sleepy, exhausted, and oppressed appearance of the eye, which is much more easily observed than described. The patient only half opens the lids of the affected organ. They are of a purplish red colour, and tumid. Their sub-cutaneous vessels are preternaturally enlarged. The vascularity of the sclerotica and conjunctiva is greatly increased. The vessels of the former describe a reticulated zone round the cornea; and those of the latter run in a direction more or less straight to the edge of this membrane, and sometimes appear to pass on the edge. The hue of the redness is peculiar; it is a dark brick-red. The pupil is generally much contracted, and its edge thickened and irregular. The iris is altered in colour, generally greenish, and incapable of motion. There exists a suffused dimness of the cornea, which may be compared to the appearance glass assumes when it has been breathed upon. There is often a turbidness of the aqueous

humour; and a pearly appearance of the parts behind the iris, may be observed by looking through the pupil. There is great intolerance of light, and a copious, hot, lachrymal discharge. The vision will be found, for the most part, so extremely imperfect, that the patient can merely distinguish light from darkness; and he is often tormented by flashes of light which shoot across his eye, and these occur more particularly in dark places; or he is troubled by brilliant spectres, or by the constant presence of muscæ volitantes. There is very considerable pain, which returns in paroxysms; and these are almost always more severe at night. The pain is sometimes referred to the ball of the eye, sometimes to one of the lids, sometimes to the temple or to the circumference of the orbit. It is, one while, compared to the action of a saw on the bones, and on other occasions, to the darting of a sword through the eye-ball.

"The general health seldom appears to be much deranged. The tongue is, for the most part, slightly white. There is often considerable thirst, and the pulse is somewhat accelerated. The bowels are frequently confined, and there is occasionally a disposition to nausea."

This disease seldom attacks both eyes; the right eye is affected more frequently than the left. It is met with as frequently in the male as in the female. Mr Wallace has never seen it in a patient under ten years of age, or in one over thirty-six years. He has observed it most generally in individuals who have been the subject of relapse of fever; but the period at which it takes place after the first attack of fever is extremely uncertain. In some it has appeared immediately, in others not for months.

"Sometimes a state of apparently full health has intervened between the attack of fever and the commencement of the inflammatory disease of the eye. On other occasions, the general health has seemed imperfect from the time of the fever, until the occurrence of the ophthalmic affection."

The foregoing symptoms mark the inflammatory state of the disease; but in all the cases which have fallen under the notice of Mr Wallace, the inflammation was invariably preceded by symptoms of amaurosis.

"The length of time that the amaurotic symptoms exist, before the occurrence of external redness, or of the visible symptoms of inflammation, is extremely uncertain; as is also the period after fever, at which the amaurotic symptoms commence. On many occasions, the amaurotic symptoms, particularly a slight dimness of vision, with muscæ volitantes, have commenced at, or even before, the time of convalescence from fever, and yet the inflammatory

stage has not supervened for weeks or even months; while on other occasions, the dimness of vision has not commenced for several days, weeks, or even months, after the febrile attack, and has then been immediately followed by the symptoms of inflammation." "It is also to be noticed, that a similar distinction of symptoms is observable during amendment; for it uniformly happens, that the inflammatory symptoms subside, a longer or shorter time before amaurotic symptoms disappear, and often before they are diminished in severity."

The writer of the essay conceives that all the phenomena of the disease now described point out its inflammatory nature, and indicate that the inflammation affects nearly all the tissues of the eye.

"But, while," he adds, "the inflammatory nature of the disease cannot but be admitted, it is not so easy to determine what the texture is which has been primarily affected. Judging from the course of the symptoms, it is the retina which first suffers; but judging from the disease when advanced, it should be called iritis. Does the disease," he asks, "commence in the choroid membrane, and from this extend to both retina and iris; producing in the latter the symptoms already described, and a paralysis of the former? This is, perhaps, the more correct view of the subject, and best suited to an explanation of all the phenomena. If this be the case, the disease may be denominated choroiditis."

The only disease of the eye with which the present is at all likely to be confounded is, we are informed, the venereal iritis; and from it, in many instances, it can only be distinguished by a particular attention to the history of the case, and to the concomitant symptoms.

This "peculiar inflammatory disease of the eye" is, according to Mr W. to be cured by the use of the bark alone, which he considers to possess a specific influence over the disease. Before he had ascertained the efficacy of the bark in its removal, he uniformly treated it like iritis "from the venereal disease," by depletion and mercury: from this plan he experienced bad effects in many instances. The incurability of the disease by mercury he states to have been ascertained by several others, as well as by himself: as also its curability by bark, when the mercurial treatment had failed.

At first, Mr W. preceded the use of the bark, whenever the inflammatory symptoms were severe, by bleeding and purging.

"But latterly," he adds, "whenever a case has presented itself, I have prescribed the bark alone, or simply with such medicines as were suited to the regulation of the bowels; and with the most de-

cidedly good effects. Indeed, I have thought that the abstraction of blood has, on some occasions, considerably retarded the cure; yet cases may occur in which bleeding and purging will be necessary."

In illustration of the foregoing observations, Mr W. concludes his paper by the relation of thirteen cases; viz. seven, in which mercury had been employed in vain, subsequently cured by the bark; and six, in which no mercury had been administered previously to the use of the bark. Of the latter, two were treated during the amaurotic state, and four, not until the stage of inflammation had commenced. The quantity of the bark administered, was generally half a drachm in powder, or about two grains of the sulphate of quinine, three or four times a day.

This paper concludes the first part of the present volume of the Transactions, and with it must close for the present our analysis. The second part we intend to notice in our ensuing number.

ARTICLE X.—*Elements of Physics; or Natural Philosophy, General and Medical, explained independently of Technical Mathematics. By* N. ARNOTT, M.D. *of the Royal College of Physicians. London*, 1827.

The well known law of the equality of action and re-action, is not less constant in morals than in physics; and to this circumstance we may attribute the almost total neglect of natural philosophy, in the existing systems of medical instruction throughout the world. In the days of the mechanical school of medicine, all the vital functions were accounted for upon the principles of mechanics and hydrostatics. At length, when the thousand anomalies produced by the agency of the vital principle convinced the profession that it was impossible to explain all the various operations going on in living bodies according to the known laws of inorganic matter, physiologists ran into the other extreme. The effects of gravity, fluid pressure, electricity, &c. were often overlooked, in the eager pursuit of that undiscovered cause of life, which still

Allures from far, yet, as we follow, flies.

It is true, that in the study of chemistry, the physician must acquire some rude notions of hydrostatics and pneumatics; but these branches unfortunately are seldom taught by a professor who is at the same time versed in physiology; and as the fundamental science of mechanics has little connection with chemistry, the slight knowledge of natural philosophy acquired during the usual course of medical studies, too often leads the student into ill founded conclusions, to the prejudice not only of his theoretical opinions, but also of his practice both in medicine and surgery. How often have we seen grave discussions and elaborate reports from really learned bodies, upon subjects which could never have occupied their attention, had their philosophers been physicians, or their physicians philosophers!

The work of which we have placed the title at the head of this article, is intended for the advantage of those who are not familiar with technical mathematics.

"An elementary treatise on natural philosophy, should be characterised," says the author, "by requiring in the reader no previous information but a knowledge of the language in which it is written, and the commonest experience of the world; by having an arrangement of the subjects as scientific or methodical as in a strictly mathematical treatise, yet without using a single term of technical mathematics; by the general principles being illustrated in all cases, rather by bringing before the reader interesting natural phenomena, than artificial experiments and dry abstract reasonings; by containing nothing of so little interest as to be readily forgotten," &c.

Any one will be convinced, on perusing the work, that Dr A. has has been singularly successful in fulfilling these requisites. The clearness of style, and the happiness of the illustrations, render the volume highly entertaining to the general reader; but we shall pass lightly over the elementary chapters, bestowing our attention on those parts of the work which have a direct relation to medicine or surgery.

The analysis of a work in which all the paragraphs are details of as many detached facts or phenomena, is a task almost as difficult as the analysis of a dictionary or a catalogue. If our readers should feel inclined to complain of the want of connection in the subjects of this article, we can only reply, that the nature of the work renders it impossible to reduce to system such of the facts and opinions of Dr Arnott as our limits will allow us to touch

upon, without neglecting many points which it is important to introduce to their notice.

Chapter I.—"ON DYNAMICS." This chapter is divided into two sections: the first contains the definitions of action, attraction, repulsion, and the essential properties of matter, illustrated by references to numerous phenomena, all of which are witnessed in the ordinary pursuits of life; but no facts are given under this head, which are directly connected with medical science.

The second section treats of "the fundamental truths explaining the motions or phenomena of the universe." These are INERTIA, preserving the matter in its existing state, whether of motion or rest, and resisting any flexion of the line of motion; ATTRACTION, producing the peculiarities of equable, retarded, and accelerated motion; REPULSION, antagonizing the last mentioned power; and the reciprocity of ACTION and REACTION. Among the proofs of these truths, we observe several which have a relation more or less intimate with medicine and hygieine. In evidence of the effect of inertia in continuing motion previously acquired by any body, we meet with the following singular law case.

"A young gentleman, unpractised in driving, ran his curricle against a heavy carriage on the road; but foolishly and dishonestly excused his awkwardness, in a way which led to his father's prosecuting the coachman for furious driving. The youth and his servant both swore, that the shock of the carriage threw them over their horses' heads; and thus they lost their cause, by unwittingly proving, that the faulty velocity was their own."

Another and more important exemplification of the same law, according to our author, explains, in a satisfactory manner, the highly beneficial effect of passive exercise in debilitated states of the constitution. The common barometer is inapplicable on ship board, on account of the constant rise and fall of the mercury in the tube. When the ship rises upon a wave, the mercury appears to fall, because the motion of the vessel does not immediately conquer the inertia of the fluid, which therefore lags behind. When the ship subsides again, the same cause, acting in the reverse direction, occasions an apparent rise of the barometer. It may be remarked, that when the motion of the vessel is very sudden, this effect is proportionably striking.

"Like the mercury in the barometer tube on ship-board, the blood in the vessels of animals is similarly affected under similar circumstances. In a long vein below the heart," (it should be

stated, in all ascending veins,) "when the body falls, the blood, by its inertia and the supporting actions of the vessels, does not fall so fast, and therefore really rises in the vein; and as there are valves in the veins preventing return, the circulation is thus quickened without any muscular exhaustion on the part of the individual. This explains the effect of the movement of carriages, vessels at sea, swings, and of passive exercise generally, on the circulation; and leaves it no longer a mystery why these are often so singularly useful in many states of weak health."

We are inclined to believe with Dr ARNOTT that the advantages derived from passive exercise are mainly attributable to the influence, more or less direct, of the inertia of the blood in accelerating the circulation; but he has involved with his argument an error in point of fact, more important in its practical relations than it at first appears. Neither the barometer at sea, nor an animal on land under ordinary circumstances can fall toward the earth with a velocity greater than that which will be produced by the gravitation of a free body under similar circumstances. Now as the force which causes the fall of a gravitating mass must influence equally every part of that mass, however heterogeneous its materials, it follows that, waiving the resistance of the air, the ship with the barometer tube and its mercurial column, or the animal with its blood-vessels and their contents, will all fall through equal spaces in equal times: there is therefore no tendency in the mercury or the blood to remain at rest while the ship or the body descends. On the contrary, if a barometer of the ordinary construction be allowed to fall suddenly, the mercury in the tube will be slightly depressed, and the degree of depression will be in proportion to the velocity of the fall. This effect is produced by causes foreign to the general proposition; and is merely mentioned as an instance of the inaccuracy into which really scientific men are eventually led, by attempting to explain complex phenomena in a popular and simple manner. The true causes of the eccentric movements of a common barometer on ship board are numerous; and most of them are totally inapplicable to the subject of passive exercise.

As this latter subject is intimately connected with the practice of medicine, we hope to be excused for occupying a little time and space in endeavouring to place in a clearer light the physical laws upon which its sanative effects depend.

1. All bodies tend by their inertia to preserve their existing condition, whether of motion or rest.

2. If motion be communicated to any part of an incompressible solid, it is immediately communicated to all parts of the mass; but in order to produce the same universal motion in a fluid or in an elastic substance, the moving cause must act equally and simultaneously upon every atom in the mass.

3. If an unyielding solid impinge upon another unyielding fixed solid, the motion of the former is instantly checked. But if a solid or fluid be urged against an elastic substance, the motion will be at first slowly overcome, and it will then be renewed again, in the opposite direction.

Now let us suppose a man to fall a few inches in a perpendicular direction, and then to be suddenly arrested, and immediately to ascend again to his first elevation. During the fall, every atom of his body would be equally and simultaneously acted upon by gravity, and would consequently descend with equal velocity. On receiving the check, the motion of all the solids would be almost instantly stopped; but the blood contained in the elastic veins would continue its descent some moments longer. The valves of the ascending veins would speedily arrest the downward current, although they would be rendered tense both by this cause, and by the additional amount of blood received, in the meanwhile, from the capillaries. But the veins coming from the head, on the contrary, would, at this moment, empty themselves by a jet into the right auricle. When the body ascends again, neither the gravity, nor the inertia of the blood is instantly overcome; for the causes which elevate the body do not act on the individual atoms. The blood therefore hangs back a little, favouring the return from the head, and distending still farther the vessels below the heart. These last, however, soon communicate the whole amount of their momentum to their contents, and increase it by their elastic contraction, so that the blood moves through them much more rapidly than usual. And it is evident that this velocity, when combined with that derived from the motion of the whole body, must greatly increase the amount and force of the blood presented at the auricle when the body again commences its descent.

When we recollect that the same causes are constantly favouring the circulation in the arteries, we can at once account for the increased rapidity of the heart's action, and invigorating effect on the vital functions produced by moderate passive exercise, and the serious consequences of that which is excessive.

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. but attributes it, in part, to the varying pressure of the vis-
pon the parietes of their cavities, &c.

The physician who empirically orders a patient with an irritable stomach and an excited brain, to be kept absolutely at rest, and who prohibits to his nurse the use of a rocking chair, would not be very likely to remove the sufferer to another room in consequence of the irregular disposition of spots in the papering. It is still less probable that he would seek an explanation of the injurious effects of these causes in an essay upon the centre of gravity.

The chapter closes with a section on animal and medical mechanics, in which the elementary principles previously exemplified are brought to bear upon subjects strictly professional. From the copious remarks upon the mechanism of the human skeleton we select the following. The skull is formed upon the principles of the arch; and like this architectural contrivance, it has a side thrust, proportioned to the superincumbent weight. The natural adhesions of the particles of bone are quite sufficient to support any ordinary force which is applied to the skull; but when a heavy body impinges upon it, the effect of the side thrust is sometimes sufficient to produce a fracture at a distance from the spot which receives the blow. This is the rationale of what is miscalled "*contre coup.*" As a pistol bullet, when moving with its full velocity, destroys the parts through which it passes, without communicating the shock to more distant parts, so a severe blow on the head from a body of moderate size generally fractures and depresses the portion of bone immediately beneath, without injuring the rest of the cranium; while a heavier mass, moving less rapidly, is slowly resisted by the arched form, and produces fracture by side thrust or by a true contre coup.

Among the practical inferences to be drawn from these premises, we may remark that the propriety of examining the bone or of applying the trephine on the lateral or weaker parts of the cranium at a distance from the original injury, and also the accuracy of the deductions drawn from the presence or absence of hemorrhage, in employing the doubtful test of denuding the skull, depend in great degree upon the character and direction of the force applied. It is hardly possible for a vindictive blow, struck with a cane or small iron bar, to produce fracture by side thrust; but a very large billet of wood, as it would act upon a larger surface, would be more likely to produce it. A large proportion of falls from a height, upon the apex of the head, and also of the blows received from large bodies when they act in the same direction, produce fracture of the softer basis of the cranium, by a *proper contre coup, independent of the*

side thrust; and a very cursory examination of the mechanism of the cranium will, we think, convince any one acquainted with the principles of physics that fracture of the lateral parts can scarcely occur by side thrust, from forces acting in the direction just mentioned. Hence if there be no fracture at the spot where such a blow is received, the chances in favour of the successful application of the trephine to a fissure found elsewhere are much diminished; for, in all probability, the solution of continuity would be found to extend to the basis of the cranium.

It is well known, that most cases of fracture from side thrust involve the squamous plate of the temporal bone. This may be accounted for by the weakness of the arch in this situation, resulting from the greater flatness, the diminished thickness, and the increased brittleness of the bone at this spot. We may be led by the term contre coup, as used by authors, to seek for the injury at the part of the head opposite the blow; whereas it will commonly be found in the temporal region and the contiguous part of the parietal bone, whether the blow be directed obliquely downward on one parietal protuberance, backward upon the upper part of the os frontis, or forward upon the occipital bone. Positive depression cannot occur from a *side thrust;* but *contre coup, properly so called*, often produces it.

Dr Arnott speaks with just indignation of the evil principles of modern female education, in limiting the proper exercise and rest of the spinal muscles, by stays, upright chairs, and sedentary studies. Our readers have already seen this subject treated at considerable length in the pages of this journal; but we sincerely hope that the work under review, which is announced for republication in this country, will tend to counteract these absurdities in circles unconnected with the profession.

Most of the remarks which follow, under the head of "Mechanism of the Skeleton," are familiarly mentioned by all lecturers on anatomy; and we have to regret that this interesting subject is not more fully discussed.

After some very cursory remarks on the action of the midwifery forceps and vectis, the levator and trephine, the amputating knife, tooth instruments, and steel trusses, interesting principally to the younger student, Dr Arnott dismisses the all important subject of the mechanical treatment of fractures, with the following uninten-

tional satire upon the complex machines and unsuccessful treatment of his countrymen.

"Tourniquets, crutches, splints, &c. &c. are so simple in all respects, as not to merit special notice here."

The chapter closes with an apology for the partial manner in which the subject of animal mechanics has been treated.

The author has not entered into more minute detail, because it would have been encroaching upon the office of those who teach particular departments; and because he thinks that any one who is not enabled, by the examples here given, to make the applications of the general laws to all possible cases, may account the study of the healing art unsuited to the faculties with which he is endowed. If the talents of medical men were tried by this standard, we fear that the ranks of the profession would be terribly thinned; and excellent as the work of Dr Arnott undoubtedly is, we cannot avoid expressing our surprise and disappointment at the meagre appearance of this section.

Chapter III.—"Hydrodynamics, *or the four great truths explaining the phenomena of fluidity.*" In this chapter, the general principles of hydrostatics, pneumatics, hydraulics, and acoustics, are explained, in as many sections, by numerous and very beautiful illustrations. The fifth section treats of "*animal hydrostatics and hydraulics, or fluidity in relation to animals.*" Upon this portion of his work the author has devoted his chief labour; it contains 120 pages, rich with interesting facts, bearing strongly upon many of the physiological and practical discussions of the day.

In pursuance of our original intention, we shall pass hastily over the elementary sections, noticing such facts as have some relation to professional matters, and then proceed to a more detailed analysis of the medical section.

Under the head of fluid support, some excellent remarks are made, with regard to the manner in which life may be preserved in the water, by persons unacquainted with the art of swimming. They are mentioned here, merely to allow us to correct a popular error, into which we believe Dr Arnott to have fallen.

"The human body is so much lighter than water, that it naturally floats with a bulk of about half the head above the water; and if a person is tranquil, the body will no more sink than a log of fir would. That he may live and breathe, then, it is only necessary that he exert his volition, to render the face that point which is to remain out of water."

That the body will not sink until the chest is completely emptied of air, is a fact well known; nor are we disposed to deny that the act of volition here mentioned may preserve the life of some individuals; moreover, it is possible that in certain positions, the face may be kept above water without exertion, by every one; but we have witnessed the unsuccessful attempts of many swimmers to effect this purpose. The body, when entirely passive, has, in general, a tendency to incline forward, rendering it impossible to throw the head so far backward as to preserve even the nose above the surface.

In speaking of the diving bell, Dr A. proposes a very simple method for enabling a person to descend to great depths, in order to recover the bodies of persons recently drowned. It is so simple, and requires so little expense, that it should certainly form a part of the apparatus of all humane societies. A ten gallon cask, made air tight, with a breathing tube above and a small orifice beneath to admit the water, when surrounded by the proper weights, may be placed under the arm of the diver, and will enable him to remain under water ten minutes. When it is recollected that the majority of persons drowned fall from the wharves or into the docks of crowded cities, the value of this contrivance will be justly esteemed.

The *yielding of the joints* has been frequently urged as an objection to the employment of extension and counter extension, at a distance from the seat of injury in cases of fracture. It would appear that the greatest admissible force employed in the reduction of a fractured os femoris, is less than would be required to separate the bone from the tibia, even if deprived of all the ligaments except the capsular.

The cartilages of the moveable articulations are thrust together by atmospheric pressure, like the Magdeburgh hemispheres, with a force of fifteen pounds to the square inch. Dr Arnott probably overrates this pressure in the case of the knee joint, when he values it at about one hundred pounds; but it is certainly very great.

In dislocations, the atmospheric pressure obliterates the cavity formed by the dislodgment of the head of the bone, by pressing inward the muscles and integuments. In the acetabulum, which, from its depth and form, cannot be entirely filled in this manner, the remaining void is filled, like a cupping-glass, with blood.

In the chapter on *acoustics*, there are some few observations

upon the theory of the stethoscope, and on the structure of the ear. We shall pass them by in order to examine the fifth or medical section.

The first subject discussed in this section is the *circulation of the blood.* After a general outline of the route of circulation and nutrition, Dr ARNOTT proceeds to point out the obvious mode in which the mere hydraulic scholar would endeavour to explain this mysterious process: that mode by which HARVEY did attempt the solution of the problem. According to the general analogies of nature, the ventricle should empty itself into the aorta at each contraction; regurgitation being prevented by the valves, the elasticity of the artery should produce a wave, which would extend through all the ramifications of these vessels, producing the pulse; and the direct force of the heart should force the blood from the extreme arteries into the veins and back to the auricle.

But to this simple explanation the progress of physiology has opposed the following objections:

"1. The pulse, instead of being a distinctly progressive wave, is almost as instantaneous over the whole body as a shock of electricity; 2. The arteries are all found empty after death; and if an artery be tied in the living body, the part beyond the ligature, although the action of the heart of course cannot reach it, is soon emptied through the capillaries into the veins; 3. Although the rapidity of the blood's passage through the capillaries varies very much, it does not vary in exact accordance with the changes in the force of the heart's action."

The motions of the blood in the arteries, the capillaries, and the veins, are then separately considered.

Motion of the blood in the arteries. The experiments of Dr HALES upon the arterial tension in the horse, prove that it is sufficient to support a column of blood about ten feet in height above the level of the heart. In smaller animals he found it considerably less; and the height of the column deduced for man was about eight feet, which is equivalent to a pressure of four pounds on every square inch of surface in the arteries. This, then, is that portion of the power of the heart which is directly applied to drive the blood through the capillaries. The tension in the veins is diminished by the facility with which the blood is received by the ventricle. It was estimated, by Dr HALES, from comparative experiments, at half a foot column, or four ounces pressure on the square inch.

The tension of the veins antagonizes that of the arteries; and Dr

ARNOTT remarks, that the former is estimated above and the latter below the proper standard; as no allowance is made for the inertia of the blood in the tube, which resists any sudden change. This error, we think, must be very trivial in the cases of the veins; for the current in them is so nearly uniform, that no considerable changes can occur, except perhaps in the cava and jugulars, where the circulation is influenced by respiration and the contractions of the auricle.

After enumerating some of the proofs of the elasticity and the contractility of the arterial tissues, and of their power of adapting themselves to the amount of their contents, Dr ARNOTT presents a number of facts, tending to establish the following conclusions.

Although it has been proved by careful experiments, that the arteries have no agency in propelling the blood; but, on the contrary, that they act, during the contraction of the ventricle, as simple pipes, yet by virtue of their elasticity, they also act like an air vessel, rendering the flow of blood in the extreme vessels nearly uniform.

If the arteries of the living body were dilatable to a great extent, like those of the dead subject, the first portions of the aorta would act as an air vessel; rendering the current more uniform even in the larger ramifications. That this is not the case, is the result of a sudden action of the contractile fibres of the middle arterial coat; which by strongly resisting the pressure of the blood, prevents the dilatation from taking place to a sensible extent. The greater uniformity of motion in the extreme vessels, is sufficient to prove that dilatation, to a certain extent, does actually occur, notwithstanding the inability of BICHAT and PARRY to detect it.

The tortuous course of arteries supplying the gravid uterus, &c. and the division and reunion of the arteries going to the brain of certain animals, appear to be intended to give the vessels a greater control over the supply; but not, as has been supposed, to slacken the velocity of the current.

Passage of the blood through the capillaries. The heart, it has been stated, produces a fluid pressure upon the whole arterial tree, of about four pounds to the square inch of surface; "and with this force, therefore, it is propelling the blood into the capillaries. If these last were passive tubes, constantly open, such force would be sufficient to press the blood through them with a certain uniform velocity: but they are vessels of great and varying activity—it is

among them that the nutrition of the different textures of the body takes place; and to perform such varied and often fluctuating offices, they require to be able to command in all ways, the motion of the blood through them."

A number of facts are mentioned in proof of the action of the capillaries being sometimes separate, or independent of the action of the heart.

Perhaps the most singular of all the proofs of independent action in the capillaries, is the empty condition of the arteries after death under ordinary circumstances, and their fulness in cases of death from lightning, and other causes which suddenly destroy muscular contractility. If an animal die standing, and if the veins are absolutely passive, the force of the capillaries in the foot must be sufficient to overcome the pressure of the whole venous column; which, in man, is equivalent to two pounds on the square inch.

Passage of blood through the veins.—The weight of the arterial column is sufficient, on hydrostatic principles, to support the blood in the veins at the level of the heart, independently of any other power. The arterial tension produced by the power of the heart, may apply a force of about four pounds on the square inch, to drive the blood into the auricle. That this is much more than sufficient, is proved by the fact that the tension is much less in the veins than in the arteries. When the blood is prevented from entering the heart, the whole of this power is called into action, and the veins become capable of supporting a column as great as that observed by Dr Hales in the tube attached to an artery. After stating these and other similar facts, in proof of the competence of the heart's action to answer all the purposes of circulation, Dr Arnott proceeds to disprove the doctrines of Drs Carson and Barry; who regard the expansion of the chest as the sole cause of the venous circulation. We shall not follow him through the long list of arguments employed to overthrow this strange theory; for we are convinced that all our readers who are accustomed to reason on physical subjects, would exclaim "jam satis" long before the conclusion. We will merely notice a few of the most striking facts connected with this subject. Dr A. examines experimentally the height of the column of water which is supported by the power of the chest during violent efforts at inspiration, while the air passages are closed; and finds it in a person of ordinary strength, to be about two feet. The power of expulsion under similar circumstances is about the

same. He next examines the column supported in ordinary breathing, and finds it less than one inch. In hurried breathing it may exceed twelve inches. But the whole column of blood to be raised is nearly double that which measures the maximum of the power of the chest, and from forty to eighty times that which is supported in common respiration. These results, founded upon experiments too simple and obvious to allow suspicion of material error, give us the true extent to which the circulation may be accelerated or retarded by respiration.

But if it be necessary to quote any proofs of the error of this theory, independent of experimental research, how does the circulation go on while the breath is held, as in divers? Dr BARRY asserts that it is arrested; and CUVIER and DUMERIL are satisfied with his experiments. Why then are not the veins instantly distended, as by a ligature on the cava, at the moment when we cease to respire? How, again, does the blood circulate in the fœtus, which does not respire? How in fishes, whose lungs undergo no dilatation in a cavity, but which respire by a species of deglutition? It is but just to state, that the latter fact led the committee appointed on Dr B.'s experiments, by the Institute of France, to confine their application to the mammalia.

After these remarks on Dr ARNOTT's refutation of the fundamental doctrines of Drs CARSON and BARRY, we need not follow him through his remarks on the application of the theory to the phenomena of absorption, by the latter physiologist.

The force of the heart is estimated by our author at six pounds to the square inch, or sixty for the whole ventricle; which is sufficient to produce the known arterial tension of four pounds on the square inch.

The velocity of the circulating blood. Dr A. points out the absurdity of estimating the velocity of the current in the vessels by the quantity delivered in a given time from an orifice in the parietes. Judging from the calibre of the vessels, and the quantity ejected at each pulsation, he gives eight inches per second as the probable rate of the flow in the aorta; that in the smaller vessels being less in proportion to the increase of their combined dimensions. In the capillaries it is often less than one inch per second; and in the veins the current is regulated by the same law, being less than that in the corresponding arteries, as the calibre of the veins is greater.

The pulse. Under this head our author endeavours, first, to prove

that a wave must take place at each pulsation throughout the arterial tree, and to point out the reasons why this wave cannot be obvious to the senses; secondly, to show that the impression of the pulse on the finger is not necessarily dependent on the wave, nor indeed on any change in the rapidity of the current; thirdly, to give a sketch of the varieties of the pulse, as influenced by the number of the heart's contractions in a given time, and the regularity of their recurrence; the degree of contraction, and that of the capillary resistance; the force of contraction and the rigidity of the arteries; and the suddenness of the beat, and the size of the artery at the time.

Circulation in the head. Dr Arnott considers the encephalon as an air-tight vessel, kept constantly supplied with blood by the atmospheric pressure on other parts of the body, acting through the arteries and veins leading from and to the heart.

As the substance of the brain is not sensibly compressible by any moderate force, it follows that the cavity must contain an equal amount of blood at all times, and that if the quantity in the arteries be increased, the veins will be partially emptied by its pressure, and vice versa. Thus the circulation will be embarrassed. Pressure on the brain itself, considered independently, he regards as productive of little injury, as it is endured with impunity by the child in difficult parturition. Where persons have been deprived of a large portion of skull by the trephine, the brain bears rough handling; but where the amount of bone removed is small, pressure upon the spot produces insensibility. The latter effect is produced by the arrest of circulation in consequence of the pressure acting on the parietes of the blood vessels. In the same manner he explains the terrible consequences of dropsy in the brain, after the ossification of the skull is complete.

We shall quote, in the author's own words, a practical application of the laws of fluid pressure, which will be novel to the profession here. In speaking of the effects of a sudden abstraction of blood in producing faintness and relieving capillary engorgement, he states that reflection on this subject led him to believe that extensive dry-cupping might produce the same effect, and thus prevent the expenditure of blood. These ideas were tested by experiment and proved to be correct.

"An air-tight case of copper or tin plate being put upon a limb, and closed by tying its leathern collar round the limb with a garter, on part of the air being then extracted by a suitable syringe, in an

instant the vessels all over the limb become gently distended with blood; and as the blood is suddenly taken from the centre of the body, faintness is produced. The excess of blood may be retained in the limb as long as desired; for the circulation in it is not impeded. To produce a powerful effect with a slight diminution of pressure, more than one limb must be operated upon at the same time."

The power of the tourniquet, in preventing the attack of intermittent fever, depends on the same general principle,—"the abstraction of a considerable amount of blood from the circulating mass without removing it from the system."

This measure has been but seldom employed in medical practice by its author; but, from the faintness which we have sometimes observed to follow the application of ligatures on several of the extremities, we should be inclined to anticipate useful results, in many cases of local inflammation attended with general debility, from an operation which, without embarrassing the circulation, will lessen the amount of blood in the system at large to any requisite extent and for any desirable period.

"*The respiration*," and "*The voice and speech*." Under these heads Dr Arnott has treated of the mechanism of breathing, and of the formation of elementary sounds, &c. As there is little novelty in his remarks on these subjects, we shall pass them by and proceed to the next division.

Digestion.—The semi-fluid character of the stomach, the intestines, and their contents, induce the author to regard the abdomen as a cavity governed by hydrostatic laws; that is, there prevails in it a fluid pressure, exerted in all directions, increasing with the depth, and increased also by the action of the muscles forming its parietes. The intestines themselves are thin, light, and perfectly pliant tubes.

"The contents of the stomach and bowels in a living man, are supported like water in surrounding water; and, therefore, if the whole be of equal specific gravity, they cannot descend or advance by their weight. Neither can any general pressure or contraction of the surrounding parietes, hasten, except during expulsion, the motion of contained matter, as has, however, often been supposed; nor can it help to empty one part into another; the stomach, for instance, or the gall bladder into the small intestine."

For the same reason, the slightest peristaltic action, or even an accidental stretching of the elastic coats of an intestine, will suffice to propel its contents; the opposing force of gravity being destroyed by the surrounding fluid pressure.

The semi-fluid character of the abdominal contents likewise explains the cause of the occurrence of apoplexy during the raising of great weights, or after an immoderate meal, the bursting of varicose veins and aneurisms under the same circumstances, and the fulness of the superficial veins in pregnancy, dropsy, tenesmus, &c. In all these cases, the pressure of the distended parietes of the abdomen upon their contents is greatly increased and the blood in the vessels and especially in the veins of this cavity, is therefore pressed out, while the veins of the body generally are rendered proportionally tense.

Pelvic apparatus.—The few pages devoted to this subject, contain a cursory view of many highly important inventions, applicable to the treatment of strictures of the urethra, œsophagus, and rectum, and of calculous affections; all of them originating with Dr Arnott, or with his brother James Arnott, Esq.; but these contrivances, with the exception of one only, have been laid before the public many years ago, in two publications, by the latter gentleman; viz. *A treatise on strictures of the urethra* (London, 1819); and *Cases illustrative of the treatment of urethral obstructions and of stone* (London, 1820). It is only necessary, therefore, to remark, that the hydrostatical principles upon which the actions of these instruments depend, are beautifully exemplified in the work before us. We will now conclude this analysis with the author's suggested improvement of the operation of Civiale; which is singularly misplaced in the chapter on hydrostatics.

"The author deems it possible to make a forceps of many claws or ribs, which should surround the stone so loosely, as to leave it freedom of motion, like a loose kernel in a shell, and so that, on making the forceps itself work backwards and forwards like the drill in Civiale's apparatus, the stone might be quickly rubbed to dust by the friction or file-like action of the roughened interior of the claws on its outer surface." "Out of the body, a stone harder than a urinary calculus, placed in a cage with a rough interior, and made to whirl as described, is soon reduced to dust."

The facts and illustrations contained in Dr Arnott's work, are so numerous and so slightly connected, that it would be in vain to attempt a perfect analysis of them; but we trust that enough has been said, on the present occasion, to show the extensive connection between natural philosophy and physiology, and to prove the utility of the former to the surgeon and the medical practitioner.

We cannot recommend this work as a complete treatise upon

medical physics; but we hail it with pleasure as the first attempted elementary work on this branch of professional study. As such it should form a part of the library of every student.

ARTICLE XI.—*On Difficult Cases of Parturition; and on the Use of Ergot of Rye. By* W. MICHELL, *Member of the Royal College of Surgeons. London*, 1828, *pp.* 128, 8*vo.*

We conceive it impossible to provide a better topic for this article than the oft disputed one of ergot; which, as our readers will have perceived, constitutes already one of the provisions for this number. So much discrepancy of opinion exists almost on no other medical subject; and it may be said that experience, that "*conciliator differentiarum*," seems, on this subject, daily to set the advocates and opponents of this medicine more and more at variance.

We are free to confess, that though we have employed, and will probably again employ, the ergot of rye in our obstetric practice, we are much surprised at the use made of it by Mr MICHELL; and feel almost a compunctious visiting of conscience, in laying before our younger readers the very bold sentiments of this author: nevertheless, hoping that the cautions and guards which a preceding article have established in regard to it, may preserve our more inexperienced friends from a rash confidence in its powers and delusive facilities, we will proceed to analyse the book, adding a few occasional remarks as we go on.

Mr MICHELL, it seems, is engaged in an extensive practice in Cornwall, in England; delivering, as he says, from one to two hundred women per annum.

He informs us in his preface, that his pages "contain merely a few practical hints, expressed as concisely as possible, on the lingering and laborious cases which will occur to every medical accoucheur in the course of his practice, and in the treatment of which, he can derive little assistance from the professed treatises on the subject of midwifery in general."

This is the kind of works we want. We have professed treatises enough; and it is very true that they contain a vast deal of informa-

tion on the subject of midwifery; but they are often deficient in that minor sort of knowledge, which, if well exposed in books, might almost stand a young man in the stead of experience.

There are a few books, which when a man has studied he may be said to have already gained experience; such, for example, are PERFECT's Cases, and SMELLIE's Collections; and, for a very large amount of "lying-in-room" wisdom, we may lastly refer to the London Practice of Midwifery; which, though among the least of the treatises on the art, deserves, in some respects to rank with the first and greatest. We shall see whether Mr MICHELL's book is of the same kind.

"No one modern improvement in medical science," says Mr M. "has, in my opinion, conferred so great a benefit on society in general, as the superior skill, information, and talent, at present directed to the science of midwifery. The death of a female in child-bed is now comparatively rare among practitioners in the country; and, from the various methods adopted for the acceleration of the birth, (of which none can be compared with the ergot of rye), the proportion of still-born children has very greatly diminished," &c.

After alluding to the reproaches of Dr KINGLAKE of Taunton against man midwifery, he asserts, that "of twenty-one deaths that have occurred in this neighbourhood within the last twelve years, nineteen have been women attended by females only. When they meet with difficulties which they do not understand, they send in haste for a medical man; but as none perhaps resides within several miles, the assistance often arrives too late, and the woman perishes from the ignorance of the midwife. Three of the above were cases of placental presentation, in all of which I was called; but, although on the spot very quickly, it was too late to prevent the consequences of improper treatment. Six died of flooding after delivery, and one of ruptured uterus. Of several I have not been able to ascertain the cause of the death." He does not say what was the cause of death in the two cases attended by physicians.

The preface contains three cases; which Mr M. takes that opportunity of publishing, as they could not properly find a place in the subsequent part of his work.

The first is a case of monstrosity; the fœtus having one body, two distinct necks and heads, and only two arms; while there was a pair of good legs, and also a pair not so good, which protruded at right angles from the sacrum, to which they were fixed by a bony attachment. They had no joint; and were enveloped in a common integu-

ment. The generative organs were male; but there was also a cavity in the perineum three quarters of an inch deep. The whole weighed fourteen pounds three ounces. The child appeared to have been alive thirty minutes before its birth.

The second case was one of plurality of children; there being three—the placentæ all separate. He does not say whether they were born alive.

The third case also produced three children; of which two are still living. According to the author, in the last case there was only one placenta.

The first chapter is entitled, "on puerperal convulsions;" and contains a case which is followed by some observations.

He was called to the case at three P.M., and found the woman held by two assistants. She soon became calm, and talked rationally, complaining of a pain in the head as though it were splitting. When the *pains* came on she said the fits presently succeeded and the pains ceased. In a few minutes a pain came on, and seemed expulsive; but, almost instantaneously, the convulsions followed and put an end to it. The os uteri was about as large as a shilling. At seven o'clock, he dilated, and turned the child; but the dilatation brought on convulsions; and while, during the paroxysm, he was withdrawing the after birth, she cried out that the child was coming, being ignorant of its birth. The convulsions continuing, he gave her one scruple of musk, to be doubled every paroxysm until they ceased. "Three doses," says he, "I have invariably found to overcome the complaint."

Mr M. thinks that, in such cases, delivery ought to be effected as soon as possible, and that it is possible to do it very soon.

"I have no doubt that it may be always effected by holding the woman by strength of arm.

"It has been often asserted, that in some cases it is impossible to turn. I have been fortunate enough to have met with no such case. The Edinburgh Medical Magazine states that the os uteri cannot be dilated until its neck is lost or obliterated. In general it is found that convulsions carry off the patient just as the child's head is born; this is in consequence of deferring the delivery too long. A great degree of excitement is caused by the accoucheur's hand first passing through the part; and, when the disease is fully formed, the moment the accoucheur assists, the fatal mischief ensues; the spasms increase, the head becomes more turgid, and, in the general struggle of nature, apoplexy is produced. *Then we look back on our patient, and fruitlessly regret that we had not been more prompt in our*

treatment. If then the convulsions be not increased to an alarming degree by the first efforts to dilate the os uteri, the operation should continue, as quickly as possible, until it is sufficiently dilated to bring away the child ; then proceed to turn."

We have already underscored the above passage as worthy of the admiration of our readers. We shall be obliged now to indicate another. After saying that in these cases the turning is very easy in consequence of the laxness of the uterine fibres, he recommends us to give some ergot before we begin to turn.

"*I should advise every one*, before they *proceed to turn the child*, to administer *the ergot of rye*. I have found it in most cases efficacious in producing expulsive efforts, after the membranes have been ruptured, expelling the child generally in a few pains ; and in every case it appears to remove the more alarming symptoms of the convulsions, and I therefore consider it to be highly beneficial."

We can not let this passage pass, without accompanying it with the expression of our most unqualified disapprobation ; considering it as dangerous in the very highest degree, and as founded surely on some great mistake of fact or reasoning.

The idea of passing the whole hand into a uterus whose neck is not yet developed, is so preposterous that it seems hardly possible to admit that it has ever been done without tearing the uterus itself, or lacerating the vagina where it is attached to that organ. The author admits that a great degree of excitement is caused by the "accoucheur's hands first passing through the part." Is it not enough of itself to produce convulsions, forcibly to enter the uterus after this fashion ? We hope that such practice is not commonly attempted.

We can not conceive of the motive of giving ergot in cases of turning, unless the author means that the medicine should begin to act after the turning has been effected ; and, if such be the case, he should have said so clearly. But, in all cases of turning, and especially where it has to be done under the shocking complication of convulsions, circumstances may be always interposed to render the turning a slow and tedious operation. How simple then would that practitioner look, who, having produced the tremendous throes which ergot excites, might have to blame himself for adding a nearly insurmountable obstacle to the operation. For, with such terrific contractions as we have witnessed, a man's hand could scarcely be passed between the womb and the child's body ; or if it could, it would put at hazard the uterine fibres themselves, which would almost

surely be torn in the attempt. The ergot can never be wanted in such a case; the hand of the accoucheur, the motion of the child, and its new relation to the organ, being always sufficient to excite the throes of labour. We admire at his advice, then, to exhibit ergot in such circumstances.

The second chapter contains a "General view of the process of labour, with a particular reference to its expulsive force—contraction and nature of the uterus—period of natural labour—may be earlier or later in different individuals." The third chapter speaks of lingering labour, its general causes, and the practice in cases of deformed pelvis.

These chapters contain nothing of special concern in the present review; and we shall therefore omit any farther notice of them, and proceed to Chapter IV., which treats of "the cæsarian operation and embryotomy—deformed pelvis—narrowness, sometimes in the brim, sometimes in the outlet."

Mr Michell offers one singular remark in this chapter: speaking of the preferableness of embryulcia to the cæsarean section, he says, "but supposing the infant could be saved, on what plea can we put the life of the mother in comparison with that of the child. If by a contrary practice we save one woman out of five, even to the destruction of five children, I conceive the advantage is still on this side. If the increase of mankind is the consideration, *the woman saved may afterwards have five children*, and these have children as early (within a few years) as the infant, had it been saved," &c.

We hope that the political economists will not be called in to aid us in determining whether embryulcia or the cæsarean operation is to be preferred in any given case. It would seem, from the above passage, that Mr Michell is in some degree guided by such considerations. No man in his senses could ever think of performing the cæsarean section on a living woman, whose pelvis could admit of the delivery of a child by any instrumental aid whatever. Can it be possible that, in deciding on such a question, we ought to be determined by a reference to the interests of society alone? The question is one of pure equity—of ascertaining which has a priority of right: it is a matter of justice, and lies between individuals; and society has nothing to do with it. That the parent ought not to perish for the unborn child, is a proposition so clear

and self evident, as to commend itself to every man's common sense.

But the singular remark above alluded to, is this: that the woman for whom embryulcia is preferred to the cæsarean section, may have five other children afterwards, who will make up to society for the loss it has sustained by that operation.

Now, can a woman be tried on the question of embryulcia or cæsarean operation, and yet have living children afterwards! even seven months children?

Certainly, if a woman who has once been brought into question as to the latter operation, should afterwards have a living child, even a seven months one, the accoucheur would be disgraced who could ever have thought of it for a moment. When the question of *cæsarean operation* has once been brought up in regard to any woman, she ought never afterwards to become pregnant.

It is very strange, then, that Mr M. should bring to the aid of his opinion so singular an argument as this, that a woman with a pelvis so narrow as to put her at risk of undergoing the cæsarean operation, might, nevertheless, bring five living children afterwards into the world, if we give her the chance of escaping by embryulcia. His position is good, but what an argument is this to support it with!

Chapter V. treats of "the relaxation of the ligamentous union of the pelvis—means recommended for the increase of uterine action—observations on Dr CONQUEST—rupturing the membranes."

Mr MICHELL begins this chapter by saying, that though "BAUDELOCQUE and others have asserted that the symphysis pubis, &c. do not give way so frequently as is averred by some medical men;" he is, nevertheless, "of opinion, that the pelvis is at all times enlarged during a severe labour. I can see no reason why women from thirty-five to forty should have worse times than those who are younger, unless it arises from the greater elasticity of the ligaments." In support of this idea, he cites the dissection of a woman, who, not anywise deformed, died of uterine hemorrhage, quickly after delivery at the full period.

"The pelvis was well formed and of the usual dimensions; but it was found that the sacro-iliac union was loose, so that the ilium and sacrum could be separated, on each side, to the extent of the third of an inch on the fore part of the union. The ligamentous fibres running from the ilium to the sacrum were entire, but the *usual connecting medium within, between the bony surfaces, was dissolved;*

the state of the symphysis pubis was not ascertained; the sacro-sciatic ligaments were very large."

In addition to this, he cites the two cases of Dr MANCHINI of Naples, and one by Dr PARRY; but we are nevertheless of opinion that, even in severe labours, the pelvic junctions do not yield in any perceptible degree, except as a diseased affection. It ought to be remembered, in this case, that the ligamentous union is very strong; and that the disjunction is supposed to be effected by a very soft wedge, which itself ought to slough, if subjected to such an enormous pressure as is here supposed to be required.

Nature has gained so little in any example of increased space obtained by this means, that we may confidently believe it is an extremely uncommon circumstance. We cannot agree with him therefore in the opinion, that women, thirty-five or forty years old, suffer more than younger women because the junctions of the pelvis will not so readily yield in their cases. The greater severity of their labours is to be mainly attributed to a more confirmed rigidity and resistance of the soft parts.

His ninth case, at page 91, is one of a child born in the 45th year of its mother's age; a first child. The head was eight and a quarter inches in length, and three in circumference. Now, in this case, there was no narrowness of the pelvis. The difficulty arose from the soft parts, whose rigidity increased this pressure.

Mr MICHELL is of opinion that ruptures of the uterus do not arise from excessive, but from irregular action, from the contraction of one portion of fibre, whilst the rest does not; the part, therefore, which does not act, gives way, the fibres, when not in action, being weaker than the os uteri. Although they are so particularly arranged, yet, if the longitudinal fibres only act, the transverse may give way and the uterus be split.

"All cases of ruptured uteri that *I have been able to collect*, have occurred in capacious pelves; the fear, then, of such an occurrence can be no objection to the administration of a medicine to cause a great expulsive power; which I consider would rather prevent the danger of a rupture of the organ, and cause, in almost all cases, a dilatation of the pelvis sufficient to pass almost any head after it had been properly compressed."

We may be satisfied here with referring the author to the "essays on various subjects connected with midwifery," by our distinguished countryman Dr DEWEES; who, besides giving us his own two cases, where the pelvis was imperfect, at page 233 and in suc-

ceeding pages, shows that many examples of ruptured uterus have been put on record, occasioned by "a contracted pelvis, an unusual sharpness of the linea ileo-pectinea, and exostoses, tumours, scirrhous indurations, and ulcers," besides "attempts to turn, or to return a prolapsed limb, or the mal-adroit application of instruments, or the unequal surface the fœtus itself may present."

It seems really astonishing that the author should recommend ergot, (for it is at least recommended by implication,) in any case, to prevent rupture of the uterus! When does a man fear this accident? is it not when the throes are most violent? is it not when, having given 20 or 30 grains of ergot, the irrepressible agony of the female is expressed by the most fearful exertions? No practitioner is afraid, in an ordinary labour, of ruptured uterus; or if he be fearful, it nevertheless rarely happens; he tells the woman to desist from bearing down, and that is commonly all he does. When rupture occurs, it is sudden and unexpected. Why, therefore, advise the use of "a medicine to cause a great expulsive power?" It is bad or useless advice: for, if the danger were foreseen, it would be apt to precipitate it; hence the advice is bad: but, as it is not foreseen, nobody will follow it—it is therefore useless.

Mr M.'s book is full of heterodoxy. He says, "Dr Conquest has given us some remarks on the different means of accelerating expulsive labour." "But I cannot go the whole length of the Dr's conclusion, and say that nothing is to be done." Before he became acquainted with the powers of ergot, he says, "when I found the os uteri thick, rigid, and unyielding, or when I found it deep, thin, and flaccid, I passed up the hand, and introduced first one finger, then another, and so on until I had introduced the whole hand; then, opening the hand and fully dilating the parts, I withdrew it without lacerating the membranes, and never interfered again until I suspected the membranes required to be ruptured, or the head in perineo, which in a few hours will assuredly be the case if no impediment exist: thus we perhaps get over twenty-four hours of grinding pain, in a few minutes, without the least injury to the woman, except a little more pain for the time, which is not to be put in comparison with ten or twenty hours' suffering both of body and mind."

How much better, how much easier and more natural, is the practice pursued by the American accoucheurs, of bleeding the patient freely, in order to produce without pain or danger the easy

result which Mr MICHELL would come at by this dreadful violence! But can the practitioner introduce first one finger, then another, into a rigid os uteri, until the whole hand is in, and yet fail to break the membranes? We have never tried this plan, and cannot therefore speak from experience—we hope never to acquire experience for such an object. We have had cases of rigidity in which we would have deemed it impossible to effect such an object without putting at hazard the safety of the female. We cite the passage not for the sake of having its doctrine followed, but to reprobate it.

We must now pass over the sixth chapter, on the various causes of lingering labour, in which we find much reason to disagree with the author; and shall take up Chapter VII., the title of which is "Great advantages from the use of the ergot of rye—its general introduction will supersede the use of the forceps—extraordinary case of recovery from pregnancy, without delivery."

Here the author makes a direct attack on the gentlemen who oppose the use of ergot. "Had not the invention of the forceps by CHAMBERLAIN," says he, "preceded the discovery of the virtues of ergot of rye, it would have been received as the greatest boon ever given to the medical world. That its benefits have not been more generally acknowledged, may perhaps, *in a great measure, be attributed to the prejudices of self interest, which must clearly discern a falling off of fees, when ergot shall have been extensively introduced.*" "In twenty years, I should not be surprised if the forceps be known only by name, as, in cases in which ergot cannot be administered, turning is all that is required; this may be *effected as easily when the child's head is in the perineum*, as at any other period; and can be done with as much safety as in any earlier stage."

What will a profession, dignified by such names as a HUNTER, a DENMAN, a BAUDELOCQUE, say to such an illiberal charge; a charge which, if true, would convict them of the most despicable meanness, or of the basest criminality? What—reject the greatest boon ever offered to the medical world, because it would clearly diminish fees; and withhold from the suffering sex, the heaven-given means of comfort and even of safety!! Who will listen to it?

Chapter VIII. treats of ergot generally; while the ninth chapter is headed "The effect of ergot of rye on uterine action—supposed danger of its use—given in amenorrhœa—considerable quantities

may be taken without inconvenience—proper dose for parturient females—its peculiar efficacy in favouring child birth—has no effect in abortion."

Mr MICHELL very properly assigns to Dr STEARNS the merit of having introduced to the notice of the medical profession those qualities of ergot which he so much vaunts; and remarks that, "until the last three or four years, this medicine has been used almost exclusively by the American physicians: it was first introduced by them to the notice of Europeans, particularly by Dr PRESCOTT's pamphlet," &c.

Speaking of the cautions relating to its employment, which have been published from time to time in the New England Medical and Physical Journal, he says, "these papers have led practitioners to conclude that it has proved injurious to the mother, and still more often to the child, when administered at too early a stage; or where considerable obstacles to delivery exist, it creates unnecessary suffering to the mother, and endangers the child's life; the contra indications to its use are, the early stage of labour; rigidity of the soft parts; unfavourable conformation; and wrong presentation. It has been owing to remarks of this sort, that medical men have been deterred from its general adoption; but I hope the perusal of this work, and the great number of cases hereafter detailed, will satisfy the profession, that it will be productive of evil in no cases except those of bad conformation, and wrong presentations which require turning." We shall not cite what he says in regard to its employment in amenorrhœa; in which it seems to be, by general consent, admitted to possess but little and doubtful efficacy.

Again—

"It is said, by the writer in the Repository (of New York), to produce one long continued effect on the uterus more than an hour, or until the contents of that organ be expelled. In many cases, I have found its effects continue full three hours, and longer than this it will seldom continue; although, in consequence of some mechanical impediment, the birth may be delayed to a later period; but, in cases of such impediment, it is stated to be productive of injury both to the mother and child; but this is a conclusion which I do not admit, as I have given it in wrong presentations, *purposely to witness its effects, and have even turned* while its action on the uterus has been most marked.

"Now, with regard to want of action, when there is a proper dilatation and sufficient room, we had all we required without the ergot; for in such cases, one and a half of brandy in six ounces

of water, repeated every fifteen minutes, would be certain in a short time, to bring on uterine action. The great value of the ergot consists in its efficacy in cases of *non-dilatation* of the os uteri; in these its power is most conspicuous, as it will produce its dilatation in a few minutes, which otherwise would require many hours."

We must refer our readers to the paper by Dr HUSTON contained in this number, for proofs of the danger arising from the premature use of ergot. It seems scarcely necessary, in the present state of sentiment relative to ergot, to say much on the above hasty mode of employing it.

In this city, where the obstetric practice is very much in the hands of male practitioners, the ergot is beginning to be much distrusted, even in cases where the dilatation is complete, and the head in the perineum.

Professor DEWEES, however, in his essay entitled "on the secale cornutum," in the American Journal, advocates the employment of ergot under wholesome restrictions. He thinks it a safe and useful medicine if properly employed; but he asserts that,

"It has been given, we have well ascertained, before the membranes have been ruptured, the os uteri at all dilated, and the external parts quite rigid. What but defeat and injury can result from such an improper use of this powerful aider of uterine contraction? This substance is now in familiar use among midwives who have neither principle nor experience to direct its proper employment; and we are credibly informed it is used in this city by a practitioner in extensive business, in almost every case to which he is called."

Chapter X. consists of "an examination of the objections brought against the use of the ergot of rye by Dr HALL—said to endanger the life of the child."

We shall now extract, from page 73 et seq., some of his observations in reply to the charges brought against the ergot by Dr HALL; and as Mr MICHELL's use of the medicine arises from a peculiar theory, we wish to do him the justice of stating it at considerable length. In answer to the charge, that its modus operandi is as yet undefined, he observes,

"This I cannot admit: I consider it to act by contracting the muscular fibre of the extremities, and by causing a greater quantity of blood to be determined to the uterus. Its power is also said to admit of no control: to this I answer distinctly, that opium will be found to stop its effects within a very few minutes."

"Another objection is, that, when the child is born any length of

time after its administration, it is always still born. This opinion of its effects I consider to be altogether erroneous. The reason why the death of the infant has been attributed to it is, that it is only administered in long lingering cases, in which it is well known that the child is frequently still born without the exhibition of ergot. It is asserted, as a certainty, that it has destroyed life. This I do not credit: I have given it largely and frequently with the best effect, and have in no case apprehended such a result from its use.

"I have already observed that I consider it to operate on the uterus by increasing the circulation of the part." "If it operate as alleged above, why has it no effect till the last months of pregnancy; and frequently not even until nature begins the work, bringing on a contraction from a power or cause which we are unable to unravel. The same woman, we find, will go at one time seven months, at another eight, at a third nine, on a fourth occasion perhaps nine and a fortnight; it cannot arise from time therefore. And in one case the child may be five, in another eight pounds, and sometimes the water an ounce, at others two or three pounds; labour therefore can not come on from over distention, when the neck of the uterus is not obliterated. It arises, I consider, from some peculiar stimulus contracting the circulation. The blood is thrown on the uterus and causes its contraction; as we well know that, when blood is withdrawn from any part, it ceases to act from want of the vital power to support the nervous." "In the same manner, when the peculiar stimulus comes on, the placenta becomes pressed on by the action of the uterus, and of course, the flow of blood through it can not be so great; the return also from the child must be lessened, if not, in some cases, nearly stopped by the pressure," &c.

"Lastly, I would observe, that in cases of hemorrhage, the delivery often never takes place, although the struggles have been very great: this evidently happens for want of the stimulus of the blood to cause delivery. To augment this stimulus, then, I consider to be the peculiar virtue of the ergot of rye. Its power is seen in the deadness of the extremities caused by the contraction of the circulation; and by some particular quality inherent in the ergot, the blood withdrawn by it from the extremities is determined to the uterus, and excites it to a more powerful action. That the blood imbibes from it any poisonous and injurious property destructive to the infant's life, I consider sheer nonsense, which can only have originated from want of experience of its real effects. I have been somewhat particular in the explanation of what I consider to be the exciting cause of delivery, as on a clear apprehension of the natural cause, the right understanding of the assistance rendered to nature by the ergot of rye will greatly depend," &c.

Mr Michell now proceeds to illustrate the benefits of the secale cornutum, by reciting cases in which it was employed for various ob-

jects, as amenorrhœa, abortion, labour, &c. and he commences with the first case at page 79; the whole number of cases being thirty-one. Of these thirty-one, seventeen are cases of labour in which the ergot was employed with the effect of delivering a living child, and four in which the child was dead; but it is just to remark, that of these four one was the subject of embryulcia; in another the cuticle peeled off; in the third there were twins, of which the first was dead born; and in the fourth the child seems to have died in the birth: so that the enemies of ergot can only attribute the death of this one to the action of ergot. The case was a severe one, but we shall recur to it.

Case 1. 1826. Called at 2 A.M. Quick grinding pains. A slight discharge of mucus. Os uteri size of a shilling.—At 10 A.M. sent for ergot—infused ʒss. in ℥iv. of boiling water—took the whole at ten minutes past 12. "In fourteen minutes the patient complained of a slight pain in her back, in another minute a pain, and in eighteen minutes from the time it was first given, she exclaimed 'clap a hand! or the child will fall to the ground.'"—In consequence of the exclamation he examined, and found the head on the perineum; and without any relaxation of the pain the child was born, and the after birth followed before he had cut the cord.—The child was living and well. It was the twelfth child.

Case 2. 1826. P. L.'s wife. Sixth child. Called at one A.M. Pains had nearly left her, constant inclination to void urine, scarcely any mucous discharge, and labour seemed to have passed off. But, as she had commonly had quick times, he did not leave her, but sent for ergot; which was given at nine A.M. In fifteen minutes a pain followed; the labour was finished in thirty-four minutes after the rye was given. The child was about a seven-months one; was still born, but, by heat and friction, recovered; and when he left them both mother and child were well.

Case 3. 1826. His *assistant* was called on Friday afternoon; the case lingered; on Saturday at 8 P.M. he went himself, and gave an infusion the assistant had made by boiling, but it entirely failed. In twenty minutes he gave another ʒss.—in fifteen minutes she complained of severe pains. The water had been evacuated for many hours without any dilatation of the os uteri. In half an hour she complained most dreadfully of the pains, though they were not expulsive. The os uteri was now as large as a crown piece—pains almost incessant; in another half hour, as large as a tea-cup; "and

in *two hours* after the last administration, she was delivered, apparently without an expulsive pain, as she kept her mouth constantly open, complaining of every thing forcing away from her." The child was dead—cuticle peeling off.

He informs us, that, twelve hours before the birth of the child, the woman did not expect to be confined for five weeks—and, as the cuticle peeled off, it is manifest the ergot did no harm to it. The mother recovered very happily.

Case 4. February 27, 1827. Called at 8 P.M. She had taken thirty drops of laudanum; by which the pains became mitigated. Waters discharged at three A.M. with a slight pain. He left her at seven the next morning. Called again at eleven that night. Pains having been constant since last visit, and now in greater force, staid with her, but did nothing till 5 A.M. On examination, found os uteri as large as a sixpence: left her again, and was recalled at 10 P.M. He found she had been in pain the whole day. Made an infusion with about half a drachm of ergot; let it stand half an hour and "added a little milk, which gave it the pink hue by which you can judge of its goodness."

The dose was given at a quarter before eleven; at a quarter past eleven os uteri as large as a wine-glass. At half past eleven the stomach rejected every thing. At twelve the pains continued without cessation; os uteri quite dilated; the head bearing on the perineum. The pain continued without intermission till the child was born; which was living and strong. Placenta propelled into the vagina in a few minutes.

Case 5. Called at 5 A.M.; pains very severe; not the least dilatation; at 8 P.M. scarcely more dilatation than necessary to admit the finger to pass. It was a first child. At 12 at night, gave ʒss. in infusion as before. At half past 12, os uteri large as a silver penny; at one o'clock, large as a wine-glass. "The pains, at half past one, were strong, accompanied by action of the abdominal muscles, causing the child's head to bear firmly, during the pain, on the perineum; which was hard and inelastic to all appearance, not giving way in the least to the child's head; but, after strong efforts, uterine, &c. the perineum was dilated, and the delivery effected in two hours and eighteen minutes after taking the ergot. Both mother and child did well.

Case 6. Called 10th March, 1827. Waters gone off many hours; examined half past four, P.M.; os uteri soft, yielding, and not at all dilated—no bearing down—vertex presentation—the su-

tures collapsed—pains, which commenced at 3 A.M.—gave her about ʒss. spurred rye; at 5 P.M. pains came on severely: he says, "at forty minutes past 5, the pains were incessant, extremities cold, pulse sixty, no heartburn, a slight nausea once, pain in the bowels and back, very lancinating, not expulsive; upon examination, the os uteri dilated about the size of a shilling, with the scalp insinuating itself into the os uteri; which now appeared more firm, not so yielding or soft; waters constantly running off, though not so much as some time previously."

At half past 6, there was an intermission from pain for about a minute, the os uteri large as half a crown; half past 7, large as a tea cup; at 8, pains very expulsive, head on the perineum, and the delivery took place at half past 8. The child born in three hours and a quarter from the time of exhibiting the ergot. All well.

Case 7. This was a case of twins. Examined, and, perceiving a face presentation, Mr M. "determined, *for the sake of experiment*, to see the effect of the ergot, whether it would overcome it." He gave ʒss. and in sixteen minutes it had the usual effect; but the pains could not propel the child. In three hours after the first took effect, he gave ℈ii. more: this roused again the dormant uterus, which had not acted for fifteen minutes; and it continued for an hour. Fearing to continue the experiment, he now turned the child, and delivered it—it was born dead. Four hours and forty minutes had elapsed between the exhibition of the first dose and the delivery. He found the turning "not at all more difficult than usual."

On examination he found a second child in the womb; and, as the pains did not come on, he gave ℈ii. of spurred rye; in five minutes and a half it had its usual effects; "and in nine minutes and a half, a fine healthy child was pushed into the world," five hours and fifty minutes from the first dose of ergot.

Case 8. The woman was in labour all day on the 12th February, and so continued more or less, in defiance of remedies, until March 7th; when he was called at 8 A.M. After a variety of plans, Mr Michell gave the ergot at half past 3 P.M. the os uteri *barely* admitting the finger, and the cervix not yet fully developed—water gone off. At a quarter past 7, the patient was "delivered, after a most exhausting and laborious exertion, of a fine dead child, without the least mark or discoloration, or the least appearance of

any thing otherwise than in a living child." The head was much elongated. The woman was forty-five years old, and never pregnant until this occasion. She recovered very well.

Case 9. The neck of the os uteri was not obliterated when he gave the ergot, somewhat after 4 o'clock, P.M.; the child was born at half past five—all well.

Case 10. Gave the ergot—all well.

Case 11. Gave ergot at half past six, she having no pain; at 17 minutes past 7 delivered of a fine child—all well. This, he says, is the 107th case in which he has administered ergot; these being all the untoward cases he has met with, in many years practice; and in "all of them it succeeded beyond my expectations." "The numbers I have delivered amount annually to between one and two hundred. I have related all the cases of dead born children, and which I consider exceedingly few. The ergot I am convinced has saved the life of many a child in my practice, by hastening its expulsion."

Case 12. This was a case of twins; one child was born before he arrived. As there was no pain, he gave ʒss. in infusion, and in twenty minutes repeated the dose; but it produced no effect whatever. He remained three hours; gave brandy and water; friction, pressure on the abdomen, walking about, puncturing the membranes with a knitting needle, all were in vain; and he was obliged at last to turn and deliver the child. The child was unhealthy and lived four days.

Case 13. Deformed pelvis; gave ergot, and at length opened the head.

Case 14. Was a head presentation—waters gone off several hours—gave ℈ii. ergot—the pains became very expulsive; when he passed up the blunt hook and drew down the child; which was healthy.

Case 15. He had only about 10 grains of ergot; which, however, he gave, as she had no pain; it had no effect whatever. After a few hours, the pains came on naturally, and the child was soon born.

Case 16. Æt. 36—waters gone off several hours—pains frequent—os uteri a little open and very rigid. Gave ergot at half past 5 o'clock, and in the course of three hours a fine healthy child was born.

Case 17. Eleventh labour. Gave ergot 22 minutes past 10—

a breech presentation. It was born in forty-seven minutes after the ergot was given—all well. The woman had always had lingering labours.

Case 18. Pains trifling—os uteri not at all dilated—vertex presentation. She was delivered of a fine girl in thirty minutes.

Case 19. Gave some ergot, which produced no good effects; on examination of the grains, they each contained a small worm. The child was subsequently born alive.

Case 20. Used the ergot—all well.

Case 21. Had attended this woman in two preceding labours; and was obliged to open the head, on account of the woman's being "short, weak, and delicate, with a very confined pelvis, but not deformed." Here he gave ergot largely, to bring on premature labour, but it was vainly given; at length he punctured the membranes with a blow-pipe. She was at this time seven months and a half gone with child. Unluckily the shoulder presented; which obliged him to turn and deliver by the feet. The child lived a few hours.

Case 22. This was a case of convulsions, in which the ergot occasioned the expulsion of the child in thirty-five minutes after its exhibition.

In the succeeding cases he gave ergot as an emmenagogue, as for example in case twenty-ninth. A young woman applied to him with every appearance of chlorosis; and as she was a respectable girl, he could neither take liberty to examine the breasts, nor put such other questions as might relate to symptoms of pregnancy.

He gave ergot ʒi. in infusion, for four days, twice each day, without in the least affecting her. She gradually grew better; in about six months he learnt she was with child, and in due season brought into the world a fine boy.

"I have many cases of this kind, in which it has been given without the least effect during gestation, and without the least injury to the child. As I have before observed, I do not believe, from repeated experience, that it has any effect unless the uterus is acting at the time of its administration. In cases of twins, when the uterus has ceased acting on the birth of the first, I have rarely found the ergot at all useful."

If these ideas should prove correct we shall much rejoice; since were it otherwise, doubtless, it often would happen, that criminality and cupidity would successfully league together for the unlawful destruction of embryo life. The dangers arising from this

abuse attracted, not long since, the notice of the French government.

Case 31 is that of a lady attacked with flooding, and so excessive as to occasion alarm to Mr MICHELL; who seems to us to fear nothing in midwifery; though in strict justice, we ought to say that his expression is "rather alarmed." He gave her the ergot, and she had a "fine boy." They both did well.

At page 121 is the *conclusion*.

"Such are the cases," says he, "which I have thought fit to submit to the profession. The abstract even of those I have notes of, would have filled a large volume. On the second of October, I administered it, in three different cases, with its usual good success; and I am convinced that, ere long, the accoucheur will no more think of attending a patient without ergot *in his pocket*, than the surgeon would at present without a lancet. Should any one still be afraid to exhibit it, from its marked and powerful effects on the uterus, I can assure him, I have used it *in many hundred cases;* and in no case should I be afraid to do so, were I on the spot at the time."

Our readers and Mr MICHELL will excuse us, if we point out an apparent discrepancy between the evidence thus given at page 121, of his having used ergot "*in many hundred cases*," and that which we have already quoted from page 96, where he says, (February 14, 1827), "I have noted this as the 107th case in which I have administered the ergot, and that in all of them it succeeded beyond my expectations. These one hundred and seven cases are all the untoward ones I have met with in many years practice." Now, if Mr MICHELL has given ergot "in several hundred cases," he must have had a great many cases of labour from the 27th of February, 1827, up to the date of his book, which was printed in we know not what early month of the present year.

To conclude—we assert, that the ergot is not so much used in the obstetric practice of Philadelphia as it was a few years since. It has not gone out of use: nay, it is still too much and causelessly resorted to, without due consideration of the necessities of the case. This seems to be generally admitted as an evil. But the practitioners here are growing wiser about it. They admit, generally, that it has occasioned a loss of life in many cases of children, who would have been safely born, if the ergot had been let alone. And there is good ground for the hope, that it will ere long be so well understood as to be employed with safety, and with great advantage

and comfort—since a wholesome dread of its terrific powers begins to be felt.

Regarding labour as a natural function, requiring for its performance a certain amount of contractile power, by which a certain amount of resistance is to be overcome; and seeing that this demands not only a certain amount of time, but the imparting to the organs concerned in resistance, a *disposition* or temper to yield, an alteration, as it were, of their natural tendencies and habits, we cannot admit that it is right, in the very commencement of labour, even before the os uteri is open, or the very cervix developed, to subject those organs to the powerful excitement which ergot is known to produce in them. If ergot can ever be safely employed before the os uteri is well opened, it can only be when the membranes are strong and unbroken; for in such case, the body of the child, the placenta, and the cord, could not be made to suffer an injurious pressure. But, in these cases, if the difficulty depends on rigidity, and not on cessation or weakness of pains, the better practice is to resort to the lancet and opium, which rarely will be found to fail in producing a happy result; and yet it may be truly said, that, if the pains under such circumstances have ceased, we have nothing to do further than rupture the membranes, in order to re-excite the languid uterus.

At the close of pregnancy, the placenta sits on the surface of the uterus broadly and closely. Whatever be the real nature of the fetal and maternal connection, which we shall not here discuss, that connection is perfect. The child sends out its blood and receives blood back; so that it grows and lives up to the height of its natural capabilities. If labour comes on, the membranes remaining whole, the volume of the uterus is not very considerably diminished, since the waters are incompressible; but as the volume of the uterus does not greatly diminish, then, it is evident that the placenta still sits broad and unconstrained on the surface of the womb. This state of things continuing until the membranes reach the vulva, the os uteri fully dilated, the head well engaged, it is manifest that the fetal connection may still retain its integrity, and the circulation not be sensibly affected; but so soon as the membranes burst, and a pound or more of liquor amnii flows off, then the uterus grows in a moment much smaller, embracing the fœtus every where closely, and expelling it in one or two pains. In such a case, the risk for the child is absolutely nothing; it may be said, it will be

safely born. On the contrary, if the membranes give way too early, and the waters escape before the dilatation is complete, it is strikingly manifest, that the placenta must be contracted as the uterine surface grows smaller, that the placental vessels must be constringed in proportion as the womb acts more and more, growing smaller and smaller, until at last the fetal circulation, impeded or wholly interrupted, ceases, and the child is the victim. But it is not merely the contraction of the placenta occasioned by that of the womb that brings danger to the child; the womb may squeeze the cord itself so as to interrupt its circulation; or it may, we conceive, squeeze the child to death. The reason why breech cases are dangerous to the child is, not that the cord is pressed, but that the uterus contracts on the head and placenta so closely as to put a total stop to the circulation in the latter probably long before the shoulders are delivered.

Now, under these views, we shall offer the following extract from an essay, the author of which, by his admitted talent and very great experience, is entitled to our fullest confidence.

Dr Dewees says, page 256,

"I think I am every way right, when I say, that there is no decisive instance extant, in which the ergot has had a direct unfriendly influence on the child."

It is with the greatest hesitation and diffidence that we dissent from Dr Dewees's opinion on such a subject, but we submit the following: if the tonic contraction, aided by alternate contraction of the womb, is apt, if long continued, to destroy the circulation of the child, will not the violent action produced by ergot precipitate its death, provided any circumstances in the presentation should retard its expulsion? Dr Dewees uses the term "*direct* unfriendly influence." And we shall not understand him as averring that unfriendly or even fatal effects on the child have never been produced by this medicine; since he knows that it has often been administered without regard to the state of the os uteri, the presentation, the position, and other circumstances of deep import and concern in the premises.

That gentleman informs us in his paper that

"The following rules for the use of the ergot, if attended to, I think, will prevent any evil following its exhibition.

"1. It should never be given before the membranes are ruptured, the os uteri dilated, and the external parts disposed to yield.

"2. It must not be used so long as the natural pains are efficient, and competent to the end.

"3. But, should they flag from any cause, it may be given; provided the labour be a natural labour according to our acceptation of the term 'natural labour;' that is, when the head, (if well situated,) the breech, the feet, or the knees, present. For, independently of any accident which may complicate the labour, it is sometimes desirable, for the safety of the child, to hasten it when the natural powers are incompetent to this end.

"4. And if the labour be accompanied by any such accident as flooding, convulsions, syncope, &c. it may sometimes be employed to great advantage, provided rules first and second are not violated.

"5. It may be used very often with much advantage in every kind of premature labour; and, at full time, when the placenta is not thrown off, and the uterus is found in a state of atony.

"6. Where flooding takes place after the rupture of the membranes—the os uteri well dilated, the pains feeble, but the child well situated.

"7. Where the head of the child has been left in the uterus by being separated from its body.

"8. Where the uterus is painfully distended by coagula."

Medical Literature.

ARTICLE XII. BIOGRAPHICAL NOTICE.—*Notice of the Life and Decease of Professor* FRANCIS CHAUSSIER.

At the present day, when the medical mind is perhaps more extended in its activity than at any former period, when the intercourse between physicians of different nations is greater than it has ever been since the disuse of the Latin language, our sympathies with the profession in foreign nations are more immediately and intimately felt; and with none are they more so than with that of France. So many of our late discoveries and improvements have flowed from this fountain, that we begin to entertain a kind of personal interest in her distinguished teachers and her great schools. The death of one of those eminent men who have formed and raised to perfection and celebrity the institutions of Paris, is truly to be regarded as a loss sustained by the whole medical world. What share in these exploits was really held by the aged and venerable man whose name stands at the head of this article, will appear from the following narrative. We have compiled it from the late journals; particularly from the Journal des Progrès, the Ephémérides de Montpellier, and an unaffected but eloquent article, by Dr BOISSEAU, in the Journal Universel.

FRANCIS CHAUSSIER was born at Dijon on the 2d of July, 1746. At the age of 23 years, he commenced delivering gratuitous courses of lectures on anatomy and physiology; which were attended by so much success that, in 1780, the general representatives of the states of Burgundy (élus généraux) appointed him professor, with a salary considered honourable. His native city was then distinguished for the standing of her academy. This body named CHAUSSIER, at first, pensionary associate, and afterwards perpetual secretary, and professor of chemistry and materia medica. Being thus secured

from anxiety about his pecuniary support by the public liberality, the subject of our notice gave himself up entirely to study, practice, and public instruction; and soon acquired the general confidence of his fellow citizens, together with the personal friendship of several distinguished men, among whom was the celebrated chemist GUYTON DE MORVEAU.

In 1794, at 48 years of age, an epocha at which the greater number of students much relax in their exertions, CHAUSSIER received from the revolutionary government the highly distinguished appointment which at once placed him conspicuously before the whole learned world, and involved the necessity of prolonging to extreme old age the labours of his youth. He was nominated, along with FOURCROY, the chemist, to draw up a plan for the reorganization of the medical schools of the nation. Under the name of the School of Health, this institution was to comprise all the branches of a complete medical education. In the mind of CHAUSSIER it was designed to be analogous to the "normal schools" then established by the government; all the light possible was to be concentrated at Paris, and, when the new university was in full and successful operation, well educated professors were to be sent to open medical institutions in the departments. This plan, it is asserted, was not well understood by FOURCROY; and in addition, it seems to have had to struggle with some of the factious waves which agitated the stormy republic in a manner so terrible to mankind. After the fall of the Jacobin party, the national convention had in some measure returned to those ideas of the Girondists which were expressed by the term *decentralization*. The project was abandoned; and three schools constituted, at Paris, Montpellier, and Strasburgh. When the conquests of Bonaparte had extended the limits of the empire, two more were established, thus forming five. The ancient university of Montpellier, thus revived, returned to the somewhat theoretical course of studies marked out by her illustrious teacher, BARTHEZ; while that at Strasburgh is considered to possess a German character.

After returning for a short interval to his native city, CHAUSSIER was settled permanently at Paris, in the situation of a professor in the new school which he had assisted to found. Here, upon a great theatre, he was enabled to inculcate his physiology and his new anatomical nomenclature. The success of LAVOISIER, and the immense advantage which chemistry unquestionably received from his improvements in technical language, might have well encourag-

ed a hope of usefulness in adopting a similar reform in the barbarous terminology of anatomy; yet the strange and unmeaning words in common use would seem to be irrecoverably fixed; as neither this great teacher, in France, nor Dr BARCLAY, in Edinburgh, has been able to introduce a more rational one. "It never was given to a man," says Dr BOISSEAU, "to reform a whole language." His physiology was that of HALLER; rejecting some abstract views, and adding some of his own. It is said to have furnished the first hints to the celebrated doctrines of BICHAT. An ample and fair development of it is said to be afforded by the work of M. ADELON, one of his favourite pupils. The lectures of CHAUSSIER are said to have been highly interesting and largely attended. Free from all pedantry, they are described as the pleasing conversations of a learned and humorous old man upon a science which had been the study of his life. This character will remind many of our city physicians of the charming botanical discourses of the late CORREA DA SERRA. "CHAUSSIER," says his biographer, "was sober in making applications of chemical principles, still more chaste in hypotheses, perfectly pitiless to theories based on the imagination, but skilful in presenting positive facts in a clear point of view, and in drawing useful inferences."

Soon after his arrival at Paris, he was appointed professor of chemistry at the Polytechnic School, and physician to the same institution. Subsequently, he became physician to the hospital "de la Maternité." Near the close of his life, after having long lived in the highest distinction, and not until he had undergone mortifications of which we have to speak, and which were a disgrace to those who inflicted them, he was received, as a poor atonement, into the National Institute.

It was CHAUSSIER who was the first to introduce into France the methodical study of medical jurisprudence, considered as a whole; although detached parts of it had been previously investigated there, and the science has since made such remarkable progress in that part of the world. The same disposition to render medical studies as complete as possible induced him to cultivate surgery; which he did with success, giving his name to several operations. It is also to CHAUSSIER that we are indebted for the philosophical arrangement and history of neuralgia.

Called frequently in consultation by his professional brethren, who loved and venerated him for his personal qualities, as they respected

his extraordinary acquirements, he became equally distinguished for the variety and applicability of his pharmaceutical prescriptions, and for the simplicity of their construction.

But even such an inoffensive and useful career was not to terminate without a cloud. In 1815 he was deprived of his situation at the Ecole Polytechnique; and on the 21st of November, 1822, at seventy-six years of age, he became the victim, in common with such men as PINEL, DESGENETTES, VAUQUELIN, and a number of others, to the ambition of those who could not be satisfied without a revolution. Had this been a mere displacement of men enfeebled by declining life, for the purpose of making room for those in higher activity and more likely to contribute to the improvement of science, however ungenerous towards the meritorious individuals who had created the institution from which they were dismissed, and although the nation evidently owed them an ample and honorary provision for their advanced age, this expulsion would still have seemed a sacrifice to the public service. But it does not appear to be so. We know not the names of the persons on whom must rest the blame of this transaction; but, according to Dr BOISSEAU, "obscure mediocrity seemed rather to point out than to fill the void left by their loss in the medical faculty at Paris." "The forgetfulness of services and the disgrace of merit, form a dangerous example to be placed before the eyes of youth; it is an invitation to them to quit the paths of study for those of intrigue." Of the powers which the venerable old man whose loss we are recording still retained for the purposes of public instruction, we may judge from his extreme popularity with the students; a body of men who form severe, but the best judges of the merits of a teacher; as none can decide upon the facility and agreeableness with which another can convey knowledge so well as those to whom that knowledge is to be communicated. The students testified regret amounting to insubordination, at the change of which we have just been speaking; and showed their grief for the loss of CHAUSSIER by a general and obvious sentiment, and by carrying him to his grave.

That grave was approaching. On the morning after his dismissal, their old instructor was attacked with apoplexy; from which he only recovered with the loss of the use of his right arm. Soon afterwards an affection of the circulatory organs displayed itself; by which he expired June 9, 1828, aged 82 years.

CHAUSSIER was unbounded in his acquirements. We have heard

him called "the most learned man in the world." Many, having acquired a reputation, fancy the remainder of their days made for repose and enjoyment, or for the accumulation of wealth; but he continued to study indefatigably at an advanced age, and kept well up with the progress of science. In this progress he took the greatest delight; and, unlike those who, as his biographer expresses it, "seem to wish that the human race should cease to grow wiser when it pleases them to cease to study," he wished ardently for the continued extension of science, and aspired at no other distinctions for himself than those of knowledge and benevolence.

Bibliographical Notices.

ARTICLE XIII.—*Beitrag zu der Lehre von den Kinderkrankheiten. Von* HEINRICH WOLFF, M.D. *Praktischem Arzte in Bonn.*

Contribution towards the Pathology of Infantile Diseases. By HENRY WOLFF, M.D. *of Bonn.*

There is not perhaps a more interesting subject for medical investigation than the pathology of those diseases which are of most common occurrence at the period of life comprised between birth and puberty. A few of these diseases, it is true, have been for many years attentively studied, and with their history and characters we are now tolerably well acquainted; but there are others, equally important, of which our knowledge is extremely imperfect; and with the very existence of some we were entirely ignorant until a very late period; or, in other words, the phenomena by which they are accompanied were referred to lesions very different from those upon which it has been discovered that they actually depend, and were submitted to a plan of treatment which, to say the least of it, was totally inadequate to their removal. As a proof of this, we may refer to that affection of the stomach terminating in softening of its coats; the occurrence of which we still find to be disputed by a few highly respectable authorities. The disease respecting which we propose in this place to offer some remarks, may be offered as another evidence of the same fact:—we allude to an inflammation of the peritoneum, for the most part sub-acute or chronic, occurring in young children, and terminating, when neglected or improperly treated, most commonly in an effusion of a serous fluid within the cavity of the peritoneum. Having, from a very early period of our medical career, had our mind particularly directed to the nature and symptoms of the diseases of children, we were soon made aware of the not unfrequent occurrence of the affection referred to; of its liability to be overlooked or misunderstood in its primary stages; and of its ordinary fatality when not submitted to an appropriate treatment until after effusion had taken place. We have, however, met with no printed account of the disease, with the exception of that contained in an essay, the title of which is prefixed to the present article, published in the number of HUFELAND and OSANN's "*Journal der Practischen Heilkunde*" for May of the present year. The writer, Dr HENRY WOLFF, of Bonn, under the denomination of "a peculiar form of ascites in children," which he does not recollect to have seen noticed by any writer on the

diseases of childhood, has very accurately described the affection to which we have alluded, and appears to have been fully aware of its real character. Believing, with Dr WOLFF, that it is a disease of every day occurrence, and to which, in consequence of its being overlooked or not properly managed, many children fall victims, we have thought that it would not be uninteresting to our readers to be presented with a history of the malady, together with some observations on its proper treatment; in drawing up which we have made free use of the observations of Dr WOLFF.

As we have already noticed, this writer has denominated the disease "a peculiar form of ascites occurring in children;" the effusion within the abdomen being, however, merely an effect or termination of the previous inflammation of the peritoneum, we have preferred calling it by a name which points out at once the nature of the actual disease, and the tissue in which it is seated.

This form of peritonitis occurs most generally in children from two to five years of age. The patient complains occasionally of flying pains in some part of the abdomen, is sullen, peevish, and disinclined to play or motion of any kind; and during the night is restless, his sleep being broken, or of shorter duration than formerly. His countenance becomes pale; his appetite capricious; the tongue somewhat furred; and the bowels irregular, being sometimes costive, and at others affected with diarrhea. The temperature of the surface is slightly increased, and the pulse somewhat excited. These symptoms, which constitute the first stage of the disease, are not continued, and are frequently so inconsiderable, that no attention whatever is paid to them by the parents; or the child is supposed to be only slightly indisposed, the serious nature of the complaint being entirely unsuspected, and a few, often improper, domestic remedies are all that is prescribed.

In many cases, however, the symptoms are of a much more marked character; "the pain of the abdomen is constant, severe, and increased upon pressure, and is attended with vomiting, a hot skin, a very quick, contracted pulse," and indeed with all the symptoms of acute peritonitis.

The first, or inflammatory stage of the disease, continues five, ten, or fourteen days. Most of the cases of any longer continuance which have fallen under the notice of Dr WOLFF were those in which anthelmintics had been administered, either by the parents, or, occasionally, by a physician, on the first appearance of the symptoms, from a supposition that they owed their origin to the existence of worms in the intestines. This practice is in the highest degree deleterious. "For although in some instances worms may be discharged, yet, so far from the patient's disease being removed, every symptom becomes aggravated, the pain of the abdomen increases in intensity, and is rendered more constant, vomiting is excited, the appetite is entirely destroyed, the thirst augments, the febrile symptoms are rendered more marked, the bowels are irregular, and the urine turbid and somewhat coloured. Frequently, after eating, the little patient suffers from an attack of colic, he remains peevish and dull, with paleness of the face, and short, hurried respiration, the abdomen becomes swollen and tense, and, by examination, a fluctuation within its cavity is discoverable; which latter symptoms mark the second stage of the disease," or that of effusion.

A few words may here not be improper, in reference to the very great abuse of anthelmintic remedies in cases of children, upon the supposition, entertained particularly by parents, and even by many in the profession, that a majority of their

complaints originate from the existence of worms in the intestinal canal. We do not hesitate to say, that this erroneous idea has been the means of sacrificing many lives. A child is affected with languor, has an irregular appetite, and a sluggish condition of the bowels; is morose, peevish; rubs his nose and his eyes; occasionally vomits, and starts in his sleep; he is immediately pronounced to be eaten up with worms, and drastic purgatives and other irritating remedies are prescribed; should a worm, no unfrequent tenant of the bowels in early life, be discharged, the previous opinion is supposed to be confirmed, and too often, without considering whether the symptoms under which the child laboured have been mitigated or aggravated by the remedies, their use is persevered in, with the view of removing entirely the supposed cause of its sufferings: but even should no worms appear in its stools, the reasoning is still the same; the child has worms, but the means employed have not been sufficient for their evacuation;—prescriptions still more active are resorted to, and continued until the appearance of symptoms of an alarming character point out the necessity for their suspension, but at a period very often too late for the best concerted means to rescue the little sufferer from the grave. So common and so serious is this error, especially in the disease of which we are treating, that it would be well for physicians to take every occasion to assure parents that, in nine cases out of ten, the means necessary for their expulsion are productive of even more injury than can possibly result, in any instance, from the worms themselves. But to return to our subject.

In cases in which anthelmintics, or other improper remedies have not been administered in the early period, the disease passes gradually and almost imperceptibly into the second stage or that of effusion. But little change is presented in the symptoms, until, the abdomen becoming tumid, the pains are diminished or entirely cease.

In many cases, especially where the disease occurs in very irritable subjects, from the very onset of the first stage, and until that of effusion, provided proper remedies have not been had recourse to, the symptoms are of a more violent character. Dr Wolff has known it to commence "with violent pain of the head, a severe fever, furred tongue, delirium, convulsive movements of the muscles of the face, and diarrhœa, alternating with a constipated state of the bowels. The fever was of the remittent form." These symptoms continued unabated until about the fifth day of the attack, when, effusion taking place, their violence was considerably diminished. Cases similar to the one just described, are, however, we believe, of rare occurrence. In but one instance has any such fallen under our notice:—in it the little patient suffered severely from the intense pain of the abdomen, which was aggravated by the slightest touch; even the contact of the bed-clothes was insupportable; her screams were almost incessant, while her face was haggard and indicated the extent of her sufferings. Death in this instance was preceded by convulsions.

In general, excepting in particular constitutions, and where improper remedies have been administered, the symptoms of the first stage are of so little violence, that they frequently, as we have already remarked, attract but little attention until effusion takes place; when the tumefaction of the abdomen, and the gradual emaciation of the other parts of the body, excite alarm; and in the majority of cases medical aid is then for the first time demanded.

In the second stage of the disease Dr Wolff notices a peculiar appearance of the countenance, which he considers in some degree diagnostic. In many

cases, he states, that, upon the first sight of the child, from this symptom alone, he has been aware that effusion within the peritoneal cavity had taken place; which conclusion was confirmed, by a fluctuation being detected on examining the abdomen. "The appearance referred to consists in a tumefaction of the skin at the root of the nose, immediately between the eyes. The parents of my patients," he remarks, "often noticed an alteration in their physiognomy, without being able to say positively in what it consisted; but, the moment I directed their attention to the tumefaction of the skin at the spot mentioned, they agreed with me that the change in the appearance of the child's countenance arose from it, and were surprised that they had not before discovered it." "Many physicians," continues Dr W., "to whom I communicated my experience in regard to this fact," (he refers particularly to Professor NASSE and Dr KÖNIG), "have been convinced of the accuracy of my observations."

Dr WOLFF remarks, however, that the symptom alluded to, is not equally marked in every case. In fair children with a delicate skin it is most striking, and the least so in brunettes. "It is to be detected immediately after the effusion within the abdomen has taken place; and disappears gradually, before the entire reabsorption of the effused fluid." All that has been said in reference to this symptom is given solely upon the authority of Dr W. We confess that we have never observed it, and can scarcely believe it to be so striking as the Doctor would lead us to suppose; if it were so, we hardly think that it would have entirely escaped our notice, considering the many occasions we have had to observe the disease, and at the very period when it is said to present itself. Be this as it may, the fact is more curious than important; for no physician will, we trust, decide upon the nature of, or prescribe for, this or any other disease from a single equivocal symptom, or until he has examined, so far as he is able, into the condition of every organ and cavity of the body.

The second stage of the affection of which we are treating is in fact simply, as Dr W. has properly denominated it, a particular form of ascites, "indicated by tumefaction and tension of the abdomen, the presence of a fluid within the cavity of the latter being rendered evident by the fluctuation caused upon percussion." The effusion is confined strictly to the peritoneal cavity, and is unattended by œdema of the lower extremities, even in protracted cases. "I have never," remarks the writer we have so frequently quoted, "observed any trace of edematous swelling on any part of the body save that which takes place at the root of the nose."

"The tumefaction of the abdomen in this disease is never to the extent which occurs in the common forms of ascites." Sometimes, indeed, at the commencement of the second stage, it is so inconsiderable that it is easily overlooked; especially as in young children there is ordinarily a considerable prominency of the abdomen. The fluctuation of the contained fluid can always, however, be distinctly perceived by the usual means. When the fact of the existence of effusion is not attended to, it increases daily in extent, until, finally, it is out of the power of the physician to obtain the reabsorption of the fluid.

The course of the disease being uninterrupted by medical treatment, the abdomen gradually increases in size, "the inferior extremities become emaciated, the skin at the upper and inner part of the thigh hangs in a fold, the fluctuation of the abdomen becomes every day less perceptible, while the tumefaction continues unabated. Every part of the body, with the exception of the face, be-

comes emaciated; the little patient loses rapidly its strength; the lower extremities are no longer able to bear the weight of the body: in the midst of these symptoms, the appetite may however continue, or even be increased. The bowels are in general variable, being at one time affected with diarrhœa, at another constipated, or at least seldom opened. A febrile excitement now occurs, and the child, in a state of extreme marasmus, sinks gradually into its grave."

"The duration of this second stage varies according to the age of the patient, and according to the mode in which the case has been managed. In general, the younger the child, the more rapid is the progress of the symptoms, and the older, the more gradual."

In regard to the usual fatality of this form of peritonitis, this depends upon many circumstances. Properly treated in its first stage, its cure is almost always certain; and even in the first period of the stage of effusion it is by no means incapable of being arrested; but when neglected, mismanaged, or submitted to medical treatment only in the advanced period of the second stage, as is too commonly the case, death is the ordinary result.

"I have seldom," says Dr Wolff, "observed a fatal termination, excepting in cases which have occurred in children from two to three years of age, and which have been entirely neglected until towards the end of the second stage, and first seen by me when the little patient was in a state of complete atrophy. In every case," he adds, "to which I have been called in the first stage, or in the commencement of the second, I have succeeded in effecting an entire cure; and on this account it is, that I have been unable to establish my opinions in relation to the disease by post mortem examinations."

Most of the cases which have occurred to Dr W. were in children from two to five years old. He has seldom known it to attack those older than from seven to fourteen years; once, however, he observed it in a boy between ten and sixteen years old, but has never known it to occur in girls over twelve years of age. Its occurrence was almost invariably confined to those under the age of puberty, or at least to those whose constitutions still retained the marks of childhood.

It was most generally at the commencement of the second stage of the disease that he first saw his patients: when his attendance was required from the very commencement of the attack, it was most commonly in those cases in which the disease commenced with symptoms of unusual violence.

During a period of six years, Dr W. attended more than one hundred cases. "They occurred at all seasons of the year; more frequently, however, in summer and autumn, and but seldom in winter and spring." As he has never had more than two or three cases under his care at any one time, he has had no reason to suppose that it was to be considered as an epidemic.

Of the younger children more females were affected than boys; and vice versa. It occurred in children of all constitutions, and of every rank in society; but he has observed that those of a scrophulous habit were most seldom affected with it.

As we have remarked in the very commencement of these observations, the disease consists in an inflammation, for the most part sub-acute or chronic, of the peritoneum, terminating, when not arrested by proper remedies, in an effusion of serum into the cavity of the abdomen. Dr W. supposes that the peritoneum enveloping the stomach and intestines is principally affected. Of this we cannot speak positively from our experience; but should be inclined to doubt whether,

in most cases at least, the inflammation is thus circumscribed. The writer just quoted considers that its remote causes are to be sought for, partly in a reigning inflammatory constitution, and partly in the great predisposition of the infantile constitution to what he terms effusive inflammations*. This, to say the least of it, is pure hypothesis: children, we know, are, from two to three years of age, peculiarly liable to gastro-intestinal irritation, with the symptoms of which the disease under consideration is very often ushered in. From the activity of the digestive organs, and other causes, at this period of life, a very great amount of blood is constantly determined to the vessels of the abdominal viscera; when from any accidental circumstance, therefore, an irritation is excited in these parts, we can easily conceive that the peritoneum may partake of it, and thus become inflamed. The exciting causes are doubtless, generally speaking, the same as are productive under ordinary circumstances of the disease in adults; for we do not wish any thing we have said to be understood as implying that peritonitis is of more frequent occurrence in infancy than during adult life. Though we believe this to be the opinion of Dr Wolff, we merely wish to point out its frequent occurrence at a period when it is not generally suspected; infantile peritonitis having been heretofore most commonly overlooked, or confounded with other diseases.

In regard to the treatment, this, of course, must vary according to the stage of the disease and the violence of each attack. During the first stage, or that of inflammation, leeches are to be applied to the abdomen, to a greater or less extent according to the age of the patient and the violence of the local symptoms; internally calomel or the blue pill, in small doses, is to be administered, either alone, or in combination with small portions of ipecacuanha, and at a later period with small portions of ipecacuanha and opium. The diet of the child is to be properly regulated, during the whole course of the disease, so that neither in quantity nor quality the food taken into the stomach shall tend to keep up or aggravate the local affection. The warm bath, and fomentations to the abdomen will also be of service; and, after the symptoms of inflammation are somewhat abated by the local abstraction of blood, a blister may be applied over the seat of the pain. Such are the outlines of the treatment we have pursued, and which we should be inclined to recommend during the first stage: it differs somewhat from that pursued by Dr W.; whose mode of managing the disease we shall now state, in the form in which he has himself communicated it.

In those cases, he informs us, in which he was called to the patient during the period of inflammation, marked by paleness of the face, aversion from exercise, peevishness, transient pains of the abdomen, irregular appetite, quick pulse, and a variable morbid condition of the bowels, he applied from six to twelve leeches over the abdomen, and directed ten to twelve grains of calomel to be administered, in doses of a grain each; (at what intervals he does not mention;) this, he observes, was in general, sufficient to effect a cure. Sometimes, however, he found it necessary to repeat the leeches, and to continue the calomel, in the doses mentioned, for a longer period. When the attack was accompanied by symptoms of acute inflammation, or when these symptoms had been excited by the administration of irritating anthelmintics on the first appearance of the

* "Der Geneigtheit des kindlichen Alters zu transsudativen Entzüdemgen."

disease, the most powerful antiphlogistic remedies, promptly employed, were necessary in order to arrest its progress and save the life of the patient: here bleeding from the arm, followed by leeches to the abdomen, a low unirritating diet, with calomel internally, constitute the appropriate remedies.

In the first period of the second stage, marked by more or less tumefaction of the abdomen, and a fluctuation more or less evident upon percussion, the treatment will vary according as the inflammation still continues, or has entirely subsided. "Should the patient still complain of pain in the abdomen, or if the latter be tender upon pressure, leeches to the seat of the disease, and calomel internally, will still be proper." But in those cases, in which the patient is free from pain, and no tenderness of the abdomen is detected upon pressure, Dr WOLFF directs calomel combined with very minute doses of digitalis, and subsequently the digitalis with cream of tartar in the form of powders. From this treatment, he has always, he states, very speedily experienced good effects. In most of the cases in which he employed it, the patients were convalescent at the end of two, three, or, at the furthest, four weeks; and in no instance did he find "irritating diuretics, or drastic purgatives to be necessary." So far from having any good effects, had they been administered, we are persuaded, the cases would very generally have terminated fatally.

In a more advanced period of the second stage, the symptoms are tumefaction of the abdomen, emaciation of every other part of the body, but particularly of the inferior extremities, with extreme debility. The disease under these circumstances is very apt to be mistaken for actual atrophy; and the usual irritating and resolving remedies prescribed under this supposition, serve only to confirm and render the disease incurable. At this period, the real nature of the case may however be very readily detected, from the previous history, and by the sensation of fluctuation discoverable upon an attentive examination of the abdomen; and, by an appropriate plan of treatment, it is still possible, in many instances, to preserve the life of the patient.

A case is related by Dr W. which was submitted to his care at this advanced stage. The patient was two years old, and had for a month been labouring under the disease. "The emaciation was," he relates, "very considerable; the child, which had, in the earlier period of the attack, been almost constantly on its feet, could now support itself only, in a tottering manner, by seizing hold of a chair or other object, and was constantly in a recumbent position, or had to be carried in the arms. The stomach was greatly swollen, and the fluctuation within the abdomen pointed out at once the nature of the malady."—"I prescribed," says the doctor, "the digitalis and cream of tartar, notwithstanding the diarrhœa which was present; by this treatment the appetite was restored, the diarrhœa suspended, and by degrees all the morbid phenomena gave way. A course of mild bitters was now entered upon, in conjunction with the digitalis, and an infusion of roasted acorns. By this means, I had the pleasure," adds our author, "in one month's time, of seeing the little sufferer completely restored to health; although, when first presented to me, I had almost despaired of any means being capable of snatching him from the grave."

A case very nearly resembling the above has been for near five weeks past under our care. From almost the lowest degree of emaciation and debility, the child has now recovered, and in short time will be perfectly well. This shows the importance, in this disease, even when success seems scarcely possible, of not giv-

ing rashly an unfavourable prognosis; and, by an appropriate treatment diligently followed up, of endeavouring to restore the patient to its accustomed health.

Dr. WOLFF mentions that in two instances he has seen the disease attack twice the same individual. In the first case, the patient was fourteen years old; the second attack took place twelve months subsequently to the former; the symptoms were far more severe and obstinate, and required for their removal the repeated application of leeches and cups to the abdomen, not merely in the first stage, but also in the second. In the second case, the patient, a boy sixteen years old, had, six weeks before the second attack, laboured for twenty-four hours under more or less severe pain of the head, which was removed entirely by the spontaneous discharge of a considerable amount of blood by stool. The symptoms of peritoneal inflammation came on suddenly during the night. The pain of the abdomen was severe and continued. After the loss of twelve ounces of blood from the arm, it was diminished, but not entirely removed: next morning a fluctuation in the abdomen was evident; the pain still continued, though less severe, and it was not fully dissipated until after a second bleeding and the repeated application of leeches and cups. The effusion within the abdomen was very slowly removed under the administration of the cream of tartar and digitalis.

Whether the form of peritonitis which we have now described is of as frequent occurrence in this country as in that part of Germany in which Dr W. practises, we have no means of determining. It is certain that it has been our lot to meet with several cases of it; and a few have also been observed by two or three of our medical friends. It is possible, we may say even more than probable, that many of the deaths, which in our bills of mortality are referred to worms, febris verminosa, atrophy, marasmus, wasting, debility, &c. have been, in fact, deaths from infantile peritonitis. Dr W. has himself remarked that, when neglected or improperly treated, the disease not unfrequently terminates in actual atrophia infantum. Let this, however, be as it may, merely to call the attention of the profession to the fact of the *occasional* occurrence of so insidious a disease, is in itself of some importance. This is all we propose by the present notice; trusting, however, that before long we shall be able to present to the public, through the medium of this journal, the experience of some of our own practitioners in relation to this subject.

Φ. Z.

Quarterly Summary

OF

Medical and Surgical Intelligence.

I. ANATOMY.

1. *Professor* MAYER *on Valves of the Pulmonary Veins.*—This gentleman's attention was directed to the subject above named while examining the lungs of an ox. They are numerous in this animal. In the pig they do not exist; but they are large and numerous in the human lungs. If a collateral branch open into a trunk of the pulmonary vein at an acute angle, they will be always found at that point, but not if it open at a right angle to the trunk.

In the Lancet for November 1, there is a communication from Mr JOSEPH CURTIS; who states that he has been unable to find any valves in the pulmonary veins of the ox. "I certainly found," says he, "that when a small vein falls into a large one obliquely, the serous coat extends the division between them further than the other coats; consequently a part of the septum between the veins is entirely formed by this serous membrane; but this piece of membrane is in no way fitted to perform the office of a valve. It is elastic, and kept constantly tense; consequently it will not easily move to either side. It requires considerable force to draw it over the mouth of the smaller vein; which even then it will not completely cover.

"To me it appears that the only use of this piece of serous membrane extending beyond the other coats of the veins, is to prevent the too abrupt termination of the septum between them, which would have happened had all the coats terminated at once. In this case there would have been a small space left, which would have been out of the regular course of the blood in the veins, and where consequently the blood would have lodged."

2. MAYER's *account of a Monster.*—A woman twenty-eight years of age, attended by a midwife, was brought to bed of twin males; it was her third lying in; she appeared to enjoy good health. The oldest of her children is healthy, the second rickety.

The twin which was first born on this occasion, had, on its seat, a large bag-shaped tumour which, bursting during the labour, allowed a considerable quantity of serum and blood to escape. The child breathed and swallowed; but died in a few minutes. The other one was healthy, and lived.

Excepting the large oval sac which was attached to its bottom, the dead fœtus was well formed. Its appearance was that of a seven months' child. The cranium, spine, brain, and spinal marrow were natural; as were also the thoracic viscera. The left carotid sprang from the innominata. The abdominal organs were all right.

In the perineal region there was a tumour, 7 1-2 inches in length, and 5 in width, which hung from the perineum between and behind the legs. The anus, open, and soiled with meconium, was in front of the rest of the tumour. The coccyx was felt behind. The skin investing the tumour was continuous with that of the fœtus. The tumour commenced by a portion which was smaller, i. e. three inches long and two and a half wide; while below it there was another sac four and a half inches long by five inches in width. This sac was empty and shrunk. In the shrunk portion several pieces of bony matter were found. It was found that this portion of the cutaneous prolongation was formed of two parts: one was thick and fibrous; the other a sac containing a portion of intestine composed of a double circular loop, in the centre of which there was a large sac, furnished with well marked muscular fibres, and about the size of an egg. Around this sac, which might be considered as a stomach, an intestine, attached to a mesentery, was observed, deriving its origin from the cells of the tumour, terminating in a cul de sac at the opposite end—it might be considered as a rudiment of a small intestine. On the external side, and parallel with this intestine, another one was observed, which was thicker, and had several longitudinal contractions, having no communication with the former, and terminating likewise in a cul de sac. It seemed to resemble a large intestine. To this last cul de sac there adhered a small appendix, which was short and thick and resembled a cœcum.

The first named portion of imperfect bowel was filled with a whitish yellow, mucous substance. The other contained a darker coloured and thicker substance, of a bitter taste. The mesentery not only possessed arteries and veins, but also a large number of mesaraic glands, lymphatic vessels, and nerves with stout ganglions. The two principal arterial and venous trunks were injected. It was thus ascertained that the artery of the *whole tumour* was a direct continuation of the middle sacral artery; the size of which exceeded that of the common iliac of the fœtus. The principal trunk of the veins emptied itself in the hypogastric *artery* (*artère hypogastrique*). The nerves were from the sacral nerves.

The bony pieces were all covered with periosteum—they seemed to represent portions of coccyx.

This is the tenth instance on record of monstrosity by external or cutaneous inclusion, and the only one that has been met with in a twin fœtus: with the exception of this circumstance it presents all the characters which are common to this species. Thus the cutaneous sac occupies the perineum; it is entirely separated from the genital apparatus; its cavity independent of that of the fetal pelvis, and enclosing a great quantity of fluid which surrounded the organic debris.—*Archives Genérales, Juillet* 1828.

3. *Congenital Fusion of the Kidneys.*—In opening the body of a person, æt. 40 years, who died of psoas abscess, a singular condition of the kidneys was discovered. This mass, of a square form, was situated transversely on the last vertebræ of the loins, and on the promontory of the sacrum, and hanging indeed a little below the latter. It was more than five inches wide, and in length, on the left side, four inches, and on the right, three and a half. Its posterior surface was entirely smooth; its internal surface, uneven, was formed of lobes with sulci between them. From this surface there arose on the right, four, and on the left five calyces, very long and narrow, which became continuous with the pelves and ureters. These latter, though very short, proceeded towards the bladder in a regular manner.—*Journal Compl. Apud Archives.*

4. M. Breschet *on a Cavity and Fluid in the Membrana Caduca.*—M. B. thinks he has found, in the membrana caduca, an undescribed fluid, and which perhaps performs an important part in the nutrition of the fœtus. This fluid should exist in greater quantity in proportion as the allantois and vesicula umbilicalis are smaller. The tomentose portion of the chorion might derive

from it the materials of nutriment for the embryo. The cavity of the caduca and its liquid remain even until after the third month of gestation.—*Bulletin.*

5. *Professor* WEBER *on the Cartilages and the Fibro-Cartilages.*—The experiments of this gentleman tend to show that the distinction of cartilage and fibro-cartilage into two organic tissues has no real foundation. The ligamentous intervertebral discs approach to the nature of the fibrous tissue, and do not possess the properties of real cartilage. When the latter are deprived of all foreign tissue and of their perichondrium, they are brittle, and not at all extensible. Their fracture exhibits fibres running in a direction across the cartilage from one surface to the other.

When cartilage is exposed to the action of boiling water it is converted much less readily into gelatine (strong glue) than ligaments and intervertebral discs.

The cartilaginous basis of bone, which may be isolated by means of hydrochloric acid, differs very much from the articular cartilages; which do not become transparent by the action of the acid, and are less easily resolved into glue by means of boiling in water: however, the cartilaginous epiphyses of the bones in infancy seem to form a single and unique mass with the articular cartilage. The cartilages of the epiphyses are traversed by vessels very little ramified, carrying red blood, which comes either from the part already ossified or from the surface of the cartilaginous mass. Similar vessels are also to be seen in some of the permanent cartilages; as, for example, those of the ribs, and that too in the adult as well as in the newly born infant. It would be wrong then to deny absolutely the presence of red blood in the whole of the cartilages.

Anatomists have carefully sought to find the precise number of pieces of which each bone is successively formed; the number of cartilaginous pieces does not always correspond to that of the points of ossification. Thus the sternum, which at a later period is divided into several portions, is originally composed of only two pieces of cartilage; the first of which corresponds to the upper portion and body, and the second to the xiphoid appendix; each os innominatum is formed of a single cartilage; before the commencement of ossification, the diaphysis and the ends of long bones constitute a single mass of cartilage; the vertebræ have three, one for the body and the others for the bridge; each sacral vertebra is indicated by a distinct cartilaginous mass; the permanent cartilages of the ribs are distinguishable in the embryo from the non-ossified ribs; the os hyoides is composed of five cartilaginous portions, in correspondence with the bony pieces of which at a later period it is found to consist.—*Bulletin.*

6. *Anatomy in England.*—We find in the Edinburgh Medical and Surgical Journal the Report of the Select Committee of the House of Commons appointed to inquire into the manner of obtaining subjects for dissection in the Schools of Anatomy, and into the state of the law affecting the persons employed in obtaining or dissecting bodies; and, as the subject is one of much importance in the present posture of anatomical affairs, we will lay before our readers an abstract of the Report.

The committee have inquired principally into the practice of the anatomical schools of London by direct personal communication with the most eminent surgeons, the principal teachers of anatomy, and their pupils. As to the practice of the provincial schools, to avoid the expense of summoning witnesses from a distance, they were satisfied with the written communications from resident professors and practitioners of eminence.

The first origin of those difficulties of which the profession in Great Britain so loudly complain, is to be traced, say the committee, to that natural feeling which leads men to treat with reverence the remains of the dead; and the same feeling has prompted them in almost all times and countries to regard with repugnance and to persecute anatomy.

Previous to the time of Dr WILLIAM HUNTER, the professors of the most celebrated schools were in the custom of employing not more than one or two subjects for a course of lectures, and the students in medicine and surgery had no

opportunities of private dissection. Dr WILLIAM HUNTER produced a reform in England in 1746 by opening his regular anatomical school; which has gone on increasing under his immediate pupils and successors. With regard to the number of pupils, Mr ABERNETHY informed the committee that, shortly after the breaking out of the war with France, they amounted to 200. Dr MACARTNEY thought that in 1778 they amounted to 300. And in 1823, according to the computation of Mr BROOKS, a teacher of anatomy, they amounted to 1000. The present number in London is said by the various reports to be 800; the diminution since 1823 depending probably on an increased resort to continental schools, where the facilities are greater.

The whole number of students who actually dissect does not exceed 500. The duration of their studies in London is usually sixteen months; and, according to the testimony adduced, though there be some discrepancy of opinion, each pupil ought to have not less than three subjects, two of which are necessary for learning the anatomical structure, and one for the practice of surgical operations. The whole number of subjects annually dissected in London does not exceed 450 or 500; a proportion quite insufficient for the completion of this branch of medical education.

The committee inform us that dissection had already been carried to a great extent before any public sentiment founded on a conviction of its utility could be fairly formed so as to permit the government, in obedience to the public opinion, openly to venture to patronize and protect it. Dr WILLIAM HUNTER's offer to build an anatomical theatre and endow it with his museum, provided the government would furnish him with the ground, was silently refused—subjects therefore were only to be procured by stealth or by means not recognised by the law. From Dr HUNTER's time down to the present, these means have been chiefly disinterment; though of late they have been obtained by stealing before burial, personation of relatives for the purpose of claiming bodies, &c.

At first, the demand for subjects not being so great, the exhumators were few; but, as they increased, detections became more common; and the law, which had been antecedently interpreted with great mildness, began to be more severely executed. In proportion as the public mind became vigilant the price of subjects rose with the difficulty of obtaining them; the exhumators increased in numbers, and, being treated as criminals, became of a more desperate and degraded character.

The baseness of the wretches employed as resurrectionists became the means of repeated exposures; for different parties of them, if they came unluckily together at the same grave, would come to open war, and sometimes leave the open grave to excite the popular indignation, or lodge complaints against each other. Frequently they have proceeded to acts of violence in order to excite the populace against the teachers. Some of them attempting disinterment have been fired upon by the friends of the deceased. The general result has been that, of late, subjects have been to be procured either not at all, or in an insufficient quantity, and at prices most oppressive both to teacher and student.

Thirty years ago the price of a subject was from one to two guineas. The teacher now pays from eight to ten guineas, and the price has risen even to sixteen guineas. The teacher delivers subjects to his pupils at a lower price than that at which he purchased them. He is refunded by the fees of attendance at his lecture; but he is often subject to heavy expenses in defending the exhumator against legal prosecutions, or in maintaining him in prison, and his family also, until the term of his imprisonment expires.

It is sufficient for us here to state, that to treat a dead body as liable to any thing but funeral rites, is regarded by one of the magistrates as an offence *contra bonos mores*, and therefore a misdemeanor; and that convictions have taken place for taking into possession, with intent to dissect, a dead body, knowing it to have been unlawfully obtained.

This state of the law, say the committee, is injurious to students, teachers, and practitioners in every department of medical and surgical science; and appears to them to be highly prejudicial to the public interests also.

It being the duty of the student to obtain, by dissecting dead bodies, a thorough knowledge of his profession, he finds that his wants cannot be supplied in England, except at an expense which nearly amounts to a prohibition, except to the wealthy. For want of subjects the lectures are often intermitted; so that the pupils, having nothing to do, acquire indolent or vicious habits, and the important department of operative surgery cannot be exhibited; it is usually omitted on account of the expensiveness of subjects. The illegality and the difficulties attending the acquisition of the science dispose the examiners, in some cases, to relax the strictness of their examination, and induce them, in the case of the Apothecaries' Company, to dispense with dissection altogether; yet those to whom they grant certificates, to the amount of 400 a year, enter into extensive practice. They ought, for the safety of the public, to be well instructed.

The embarrassments in the way of anatomical studies in England have induced many students to go abroad; and 200 are now engaged in anatomical pursuits in Paris.

But, say the committee, it is not only to the student while learning the rudiments of the science, and to the teacher while endeavouring to improve it, that dissection is necessary and the operation of the law injurious. It is essential also to the practitioner, that, during the whole course of his professional career, he should dissect, in order to keep up his stock of knowledge. He is required also, in many important cases, civil and criminal, to guide the judgment of judges and jurors; and would be rebuked, were he to confess, upon any such occasion, that, from having neglected the practice of dissection, he was unable to throw light upon a point at issue in that science which he professed. He is liable, in a civil action, to damages for errors in practice due to professional ignorance; though at the same time he may be visited with penalties, as a criminal, for endeavouring to take the only means of obtaining professional knowledge.

The committee next proceed to exhibit the dreadful effects which their trade produces on the morals of the exhumators—whose business is eminently calculated to debase them, and to prepare them for the commission of violent and daring offences. The number of persons who, in London, regularly live by raising bodies is stated not to exceed ten, but the number of those occasionally employed is nearly 200—nearly the whole of whom, by the testimony of the exhumators themselves, (who were examined,) live by thieving, and form the most desperate and abandoned class of the community. It would seem useless, with a view to suppress exhumation, to endeavour to execute the existing laws with increased severity, or to enact new and more rigorous ones. The effect of interpreting and executing the existing laws with increasing rigour, has been, not to suppress exhumation, but to raise the price of bodies, and to increase the number of exhumators. So long as there is no legalized mode of supplying the dissecting schools, so long the practice of disinterment will continue; but, if other measures were devised, which would legalize and insure a regular, plentiful, and cheap supply, the practice of disinterring bodies, and of receiving them, would of necessity be abandoned.

It seems that plans have been offered to the committee by which this supply could be effected, and that these plans are modelled upon that adopted in Paris: hence the committee give us an account of the Parisian practice in this matter.

The administration of the hospitals is confided to a public board of management. Every dying patient must be attended by a priest; and, after his rites are performed, the body must be removed from the chapel, attached to the hospital, to the dead room, to remain during twenty-four hours, if not sooner claimed by the relations. Bodies may be examined by the medical officers, to ascertain the cause of death, but may not be dissected by them. A body, if claimed by the friend after examination, is sewed up in a clean cloth before being delivered to him. If not claimed within twenty-four hours, after being enveloped in a cloth in a similar manner, it is sent to the dissecting schools. There are no private dissecting schools in Paris; and but two public ones—that of the Ecole de Médécine and that of the Hôpital de la Pitié. There is a Chef des Travaux Anatomiques, who distributes the bodies in a proper manner. Subjects cost the

students from three to twelve francs. There is no exhumation, and no violation of the popular feelings.

The British profession desire that similar arrangements may be made at home. It appears that, of 3744 persons who died in workhouses of 127 parishes in London, Westminster, and Southwark, in the year 1827, 3103 were buried at the parish expense; and of these, about 1108 were not attended to their graves by any relatives. From many parishes no reports were obtained; but it is evident that the above sources alone would much exceed all that is now obtained by exhumation; and, when added to some other sources of supply, would be amply sufficient for all the wants of the science.

We will here close our abstract of this interesting report, by citing the following passage; which ought to commend itself to the common sense of mankind.

"The committee consider that they would imperfectly discharge their duties, if they did not state their conviction of the importance to the public interests of the subject of their inquiries. As the members of the profession are well educated, so is their ability increased to remove or alleviate human suffering. As the science of anatomy has improved, many operations, previously thought necessary, have been altogether dispensed with; most of those retained have been rendered more simple, and many new ones have been performed, to the saving of the lives of patients which were formerly thought impossible. To neglect the practice of dissection, would lead to the greatest aggravation of human misery; since anatomy, if not learned by that practice, must be learned by *mangling* the living. Though all classes are deeply interested in affording protection to the study of anatomy, yet the poor and middle classes are most so; they will be the most benefited by promoting it, and the principal sufferers by discouraging it. The rich, when they require professional assistance, can afford to employ those who have acquired the reputation of practising successfully. It is on the poor that the inexperienced commence their practice; and it is to the poor that the practice of the lower order of practitioners is confined. It is therefore for the interest of the poor especially, that professional education should be rendered cheap and of easy attainment; that the lowest order of practitioners, (which is the most numerous), and the students on their first entry into practice, may be found well instructed inthe duties of their profession."—*Edin. Med. & Surg. Journal.*

II. PHYSIOLOGY.

7. *Case in which no division existed between the ventricles of the heart.*—A case of this kind is related by Dr Wittchke, in Hufeland and Osann's Journal for April of the present year. The patient was 24 years of age—had from his infancy been affected with a peculiar palpitation of the heart, unattended by any other symptom of disease. Five years ago, after an inflammation of the chest, the palpitation augmented in violence; he appeared sometimes to be in danger of suffocation. The palpitation and sense of suffocation abated when he sat upright and pressed his breast firmly against any hard body. Medical treatment rendered him no relief; the occurrence of hemorrhoids appeared, however, in some measure to render his sufferings more tolerable. Finally, the accessions of suffocation, became more violent, particularly at night—the only position in which the patient could find any ease, was sitting upright. By degrees œdema of the feet showed itself, and extended to the legs; at length the abdomen became distended from effusion, and the scrotum was swollen to a great extent. His countenance was livid, swollen, and of a doughy appearance. The upper extremities presented the same phænomena. He was first visited by Dr W. on the 17th of November, 1825; he found him lying in bed, with his head and shoulders greatly elevated, and unable to rise. The preceding night he had suffered a very severe attack of suffocation—for fear of a return of

which, he begged, with tears in his eyes, that the doctor, by puncturing the abdomen, would relieve him of the load of water which it contained, and thus enable him to assume the erect posture. His carotids throbbed violently—the heart beat with such force, that the whole of the left side of the chest was shook by its action. The motions of the chest were distinct, commencing above and extending downwards. The pulse was regular; somewhat tense, and moderately full, 90 in a minute. The respiration was rattling, as though some obstruction existed in the trachea. The patient could speak only with great difficulty; the tone of the voice was hoarse and low. The body presented all the symptoms of extensive general dropsy. Appetite and digestion not particularly affected; the tongue very red and clean; great thirst; the skin had the feel of dry parchment. The skin on the fore part of the scrotum, being irritated by the passage of the urine over it, presented an erysipelatous appearance; as also did the calves of the legs. The patient complained of considerable pain of the left thigh. Notwithstanding the dropsy was to be viewed as an effect of disease of the heart, under which the patiently evidently laboured, yet with the view of mitigating his sufferings, as well as to take off the extreme tension of the skin, from which gangrene was to be feared, Dr W. punctured the abdomen. Though but a small quantity of fluid was discharged, the patient felt somewhat relieved. Diuretics were directed internally; and externally, tepid poultices, with acetate of lead and laudanum, to the left inferior extremity.—Next day, near six quarts of water discharged by the puncture; the patient much relieved; had a quiet night. Poultices exchanged for a decoction of chamomile flowers, with acetate of lead and laudanum. Seltzer water to allay the thirst. On the ensuing day, symptoms the same—diuretics continued. On both of the two following days, bowels evacuated; pain of left thigh increased, with redness; chamomile decoction discontinued, and a decoction of oak bark, with the same additions, directed. On the 22d of the month, dropsical symptoms considerably abated; palpitation of the heart much diminished; the patient could stand without assistance, and sat up the greater part of the day in an arm chair. On the 25th, frequent watery stools, weakness, the pulse more frequent and strong; diuretics discontinued, and frictions to the abdomen, of spirit. terebinth, and camph., united by the yolk of an egg. From this time, the patient rapidly declined in strength. On the 29th, gangrene of the left thigh; on the 30th, the patient died. *Sectio cadaveris.* The thorax only examined; it contained about a pint of bloody serum. Lungs healthy, but pressed backwards, in consequence of the augmented size of the heart; they were not greatly distended with blood, and nowhere adhered to the pleura. The pericardium adhered completely to the surface of the heart, with the exception of that part which is next the diaphragm; where not a trace of it was discoverable, the heart lying immediately upon the latter. The heart was at least three times its normal size, and filled with a considerable quantity of black half coagulated blood; the parietes of both ventricles being of a thickness proportionate to the augmented bulk of the organs. The most remarkable circumstance was, the absence of the septum ventriculorum; of which not a trace remained; notwithstanding which, the openings of the great vessels were entirely natural, excepting that those of the veins were somewhat enlarged;—the valves perfect. The auricles, with the exception of their increased size, were also in every respect natural. The aorta arose very straight, and was filled with a fibrous coagulum. The veins were collapsed, and contained a small quantity of fluid blood; this was also the state of all the great veins of the chest. The ductus arteriosus was, as usual, entirely closed.

8. *Case of superfetation in a single uterus.*—Dr Fahrenhorst, of Justerburg, in Lithuania, relates the case. A woman forty-two years old, became pregnant for the second time, in September, 1825. Two years before this, she had borne a son—and enjoyed perfect health, and never menstruated during this interval. On the 28th of April, 1826, this woman felt something descend into the vagina; and supposing herself to be attacked with prolapsus, sent for E——, a midwife of the town. She found that it was a fœtus enclosed in its membranes;

and prescribed rest. On the same day, about noon, this fœtus was brought into the world, with all its membranes, and without any sanguineous discharge. After its escape, the midwife perceived that there was another set of membranes; and the mother said she felt some motion within the uterus. At one o'clock of the next night, the pains commenced, and she brought forth another fœtus, living, but very little advanced, and surrounded only by a single membrane. Dr FAHRENHORST was immediately informed of the circumstance, and, proceeding to the spot, ascertained the above related facts. This fœtus, which he considers as a four months' one, was four inches in length. The members, which had no nails, might be easily distinguished; and the head presented the ordinary disproportion relatively to the trunk. The first child was a nine months' one, and lived.—*Archives.*

9. *Acceleration of the Pulse in high situations.*—Dr BRUNNER, in his ascent of Mount Etna, in 1826, found that his pulse, which on the coast was 62 to 63 per minute, was 72 at Nicolosi, which is 3200 feet high; 80 at 9300 feet; and 84 at the summit, or 10,152 feet above the sea.—*Ibid.*

10. *Influence of operations on the Neck on the nutrition of the Eye.*—Mr MAYER has experimented for this purpose on several domestic animals. When the great sympathetic was tied in the neck, it occasioned some disorder in the nutrition of the eye on the same side, manifested by inflammation of the conjunctiva. Injury of the *nervus vagus* is often followed by the same effect. When both the vagus and sympathetic are tied, the effect is more manifest; and the inflammation extends to the interior of the globe of the eye.

When one carotid is tied, not much effect is produced; but if both are secured, the eyes always suffer more or less; they lose their brightness, and their vital turgescence; however, it rarely happens, that complete disorganization ensues.

But if the vagus, great sympathetic, and carotid are included in the ligature, an exudation of plastic lymph takes place on the anterior surface of the iris; this new product, which is membranous, completely closes the pupil. In time, suppuration of the cornea, and staphyloma are observed.—*Bulletin.*

[We will take this opportunity of stating, that one of our friends, some time ago, put a seton on the back of the neck of a patient; some months afterwards the man returned, in a violent passion, accusing him of having rendered him *impotent* by that operation. The gentleman had great difficulty in convincing the man that his misfortune must have depended on some other cause.—ED.]

11. *Experiments on the Velocity of the Circulation, &c.*—These experiments, by E. HERING, Professor at the Veterinary School of Stuttgard, are related in the *Zeitschrift für Physiologie.* There were eighteen experiments. Into the jugular vein of a horse was introduced a solution of ferro-cyanate of potassa. The air was not permitted to enter with the fluid. After a given time, a vein was opened at another place, and the blood was examined by chemical re-agents. The animal being afterwards killed, the injected fluid was sought for in the secretions.

As a re-agent to detect the ferro-cyanate in the blood, the author preferred the sulphate of iron to the sulphate of copper and hydrochlorate of iron: in order to have immediately a blue precipitate with this salt, it is sufficient to add a little hydrochloric acid. In this way the ferro-cyanate of potassa may be recognized, though diluted in 20,000 parts of serum. Small quantities of the hydrocyanate not being recognizable in red blood, it must be allowed to rest twenty-four or forty-eight hours, so as to have a clear and limpid serum. A few drops are permitted to fall on white paper; then some drops of a solution of sulphate of iron (ʒi. to ℥iii. of distilled water); one drop of concentrated hydrochloric acid, which is to be added lastly, instantly reveals the presence of the ferro-cyanate.

A solution of ferro-cyanate of potassa, introduced into the jugular vein of a horse,

traverses the round of the circulation, and appears in the opposite jugular vein in an interval of from twenty to twenty-five seconds, (Exp. 8, 10, 13, 14, 16,) or from twenty-five to thirty. (Exp. 12.) In from twenty-three to thirty seconds, it arrives in the external thoracic vein of the opposite side; (Exp. 5;) in twenty seconds in the great saphena; (Exp. 4;) in fifteen to thirty seconds in the masseter artery; (Exp. 6;) in ten to fifteen, and in twenty to twenty-six seconds in the external maxillary artery; and, finally, in twenty to twenty-five and twenty-five to thirty seconds in the artery of the metatarsus, on the opposite side; (Exp. 18, 16).

If this injected fluid moves by the same means as the blood, it must move with a velocity equal to that of the blood. The velocity of this movement does not seem to increase with the number of pulsations of the heart; for, in a horse, where the pulse was sixty in a minute, (Exp. 8), and two others, where it was between thirty-six and forty-four, and between forty-eight and fifty-two, (Exp. 13 and 14,) the same results were obtained. However, in another, where the pulse was between thirty and forty-four, the circulation was found to be a few seconds slower.

The ferro-cyanate of potassa is promptly secreted by the serous membranes; but in small quantity, and that in a ratio inverse to their remoteness from the heart. Thus, the secretion commences on the internal surface of the pericardium, where it is also most abundant. Then it takes place on the pleura, the peritoneum, and, lastly, the articular capsules. The cerebral cavities were opened only in a few cases; and not a trace of the saline fluid injected was ever discerned. In the other serous cavities, its presence was detected in two, three, four, seven, and fifteen minutes after the injection. These were the periods when the animals ceased to give any signs of life.

The mucous membranes secrete the injected substance less promptly than the serous. A few minutes, however, are sufficient to exhibit the foreign substance on their free surface. The mucous coat of the right half of the stomach shows it sooner than the intestine, and the latter sooner than the pulmonary surface. The secretion is much slower on the genito-urinary mucous surfaces. Mucous surfaces covered with an epithelium, as the mouth, pharynx, and left half of the stomach in the horse, afforded no traces of the injection.

In the liver, spleen and thyroid gland, it was with difficulty detected, on account of their deep colour. The salivary glands appeared to have a large share in its elimination. (Exp. 5, 6, 7, 16, 18).

The kidneys have a considerable share in it. The reaction was manifest here in one minute. (Exp. 9).

The shortest time required for the fluid to reach the thoracic duct is not determined. One minute sufficed in Exp. 9, and two to five minutes in Exp. 10, 7, 15, 6, 5. It is later in appearing in the lymphatic ganglions; whence, says the author, it would seem that there must be a direct communication between the arteries and the lymphatic vessels.

In twenty-four hours, all trace of the presence of the salt in the secretions was gone. (Exp. 13).

The ferro-cyanate may be mixed with the blood without inconvenience to the animal.—*Bulletin, Juillet.*

12. *Centre of the Nervous System.*—Mr Flourens has been led, by some late experiments, to the conclusion that the centre of the nervous system exists in a small space, which commences at the origin of the eighth pair of nerves, and extends a few lines below it. If the brain be cut off above, it dies, but the spinal marrow remains alive; if the spinal marrow be cut off below it, the brain remains alive but the spinal marrow dies. There is, therefore, in the *nervous centres*, a point—a point so long sought for by the physiologists—on which the life of all the other parts depends. This point is between the spinal marrow and the encephalon; that is, in the midst of the nervous centres. If any part be in connection with this centre, it is alive—if it be detached from it, it is dead.

This point then constitutes the vital nucleus (nœud) or knot, and the central bond of all the nervous parts.—*Archives, Sept.*

13. *Functions of the Lymphatic System.*—M. COLLARD DE MARTIGNY, in an essay on the effects of abstinence, has a chapter on this subject. Two opinions, according to M. M., have divided the profession on that subject; according to one, the use of the lymphatic system is to bring back to the heart a part of the arterial blood; according to the other, it is the exclusive organ of general absorption.

We can only, in this place, present our readers with the summary of M. MARTIGNY's results, omitting the experiments and arguments on which he considers them to be founded. M. M. thinks,

1. That the common use of the lymphatic system is not to bring back to the heart a part of the arterial blood.

2. That, nevertheless, in view of its communication with the blood vessel system, *blood may flow back in cases of excessive artificial plethora.*

3. That the lacteal and lymphatic form only a single physiological order of vessels.

4. That this vascular system is the organ of the assimilative absorptions of the whole body.

5. That the veins, on the contrary, absorb, throughout the whole body, those substances which are to be introduced into the circulation without undergoing any preceding alteration; a function which he designates by the name of *inhalation* or *simple absorption, not assimilative* or *elaborative.*

6. That the lymphatic, like the nervous and sanguineous systems, is composed of two distinct systems: one common for the whole body, the other peculiar to the intestinal tube.

7. That these two systems are vicarious in the exercise of their functions.

8. That their functions appear not to be exercised at the same time.

9. That there is between them even an evident antagonism.—*Journal de Physiologie.*

14. *Magendie's Remarks on the Brain.*—These remarks were read at the Royal Academy on the 16th June last.

Of the cephalo-spinal fluid, the discovery of which by M. M. has already been mentioned in this Journal on several occasions, he says that he has now ascertained that its quantity in a middle sized man averages about three ounces: women, all other things being equal, have a larger quantity.

The quantity is greater in old men, and may even amount to seven or eight ounces; but it is uncommon in such circumstances not to find some weakness of the intellectual faculties.

This fluid surrounds the whole brain and spinal marrow; and the stratum is of various thickness in different situations; in the neck it is four or five lines; in the loins, more than an inch; around the brain it is commonly one or two lines, and in certain cases and situations nearly an inch.

Among other very singular observations, we beg leave to call the attention of our readers to the following. This distinguished physiologist asserts that the brain is not always of an invariable size in the same individual; but, like the muscles and other parts of our frame, is subject to great diminution in sickness; and that the place yielded by the lessening brain is occupied by this cephalo-spinal liquid. He says that he has had many opportunities of satisfying himself that, in cases where a person has had a permanently contracted or immoveable limb for several years, a portion of the brain has disappeared, to the amount of a fifth or fourth part of a cerebral lobe, its place being occupied by a great hollow filled with the cephalo-spinal fluid; so that the cranium was always full. The object of the fluid seems to be to keep up a uniform degree of pressure on the brain and spinal marrow in all the varying circumstances of those organs; a pressure which, in consequence of the hardness and inflexibility of their coverings, could not be otherwise effected.

M. M. informs us that he had an old fox; which, having been caught in a net, was in good health, and exceedingly cross and disposed to bite. By means of an opening made in the back of its neck, he permitted all its cephalo-spinal fluid

to escape; the effect of which was that the animal immediately became calm and quiet. Mr M. now untied him, and let him loose in the garden; but he lay down on the place, and did not stir till the next morning. In the course of the day he began to move about a little; and, in thirty-six hours, regained his snappish and wild disposition. He now made a puncture again; and satisfied himself that the cephalo-spinal fluid had been entirely restored.

Distilled water, of the temperature of the animal, produced the greatest distress when thrown into the cavity after permitting the natural fluid to run out; the disturbance occasioned by it always ceased as soon as it was withdrawn.

When the fluid, after being withdrawn and cooled, was re-injected, the animal was seized with a general trembling, analogous to that which precedes a paroxysm of intermittent fever.

From all these experiments, he thinks himself warranted in the conclusion, that the cephalo-spinal fluid influences the functions of the nervous system, 1. By contact with the surface of the brain and spinal marrow, 2. By its chemical nature, and 3. By its temperature—and that thus this fluid is entitled to take rank along with the blood, lymph, &c., in consequence of its utility in the animal economy.—*Journal de Physiologie.*

III. PATHOLOGY.

15. *Gastromalacia.*—The following outline of a case of gastromalacia, related by Dr SAGER, (from "*Der Vierteljährigen Sanitätsberichten*") occurs in HUFELAND's Journal for February, 1828. The patient was a boy thirteen and a half months old. In consequence of the great accumulation of fat, the body of the child had, from birth, an unnatural spongy appearance. Previously to his last illness, the patient had suffered from frequent attacks of diarrhœa, referable, in part, to the irritation of teething. During the last months of his life, he was affected with an obstinate symptomatic cholera; which, at one period, was for four days completely suspended, but which, finally, terminated in gastro-malacia—marked by continual vomiting, in which, at first, a bilious gelatinous mass was discharged, evacuations from the bowels of a dark greenish colour, and symptoms of nervous fever. At length the vomiting ceased; and, in the midst of convulsions, paroxysms of strangulation, and moans of anguish, death occurred, after eleven days of suffering. *Sectio Cadaveris.* The abdomen was alone opened. The small intestines were, to a considerable extent, stained of a dark bottle green, by the exudation of bile through the coats of the gall bladder; the latter was larger than is usual in children of the age of the present subject, being above three inches in length, and held nearly three drachms of a dark bottle green bile. The liver was somewhat enlarged, and of a clear light red colour. From the cavity of the abdomen there escaped one or two spoonfuls of a brownish watery fluid, which had probably been contained in the stomach. The parietes of the latter, on its anterior side, were entirely sound, and without any appearance of inflammation; from which, also, the other portions of the bowels were free. In the posterior parietes of the stomach there was a perforation through all the coats, nearly circular, and of the size of a Prussian dollar; surrounding this opening, the coats of the stomach were so tender as to give way on the slightest touch. The stomach was entirely empty; and was covered on its mucous surface, very generally, with a brownish white mucus.

16. *Vaccinia Spuria.*—The frequent instances in which individuals reputed to have been vaccinated have lost their lives by an attack of genuine, unmodified small pox; and the fact, announced from the very period at which the prophylactic powers of the vaccine disease were first made public, that it was possible to communicate a pseudo-vaccine infection, incapable of guarantying the system from the effects of variola, have of late years directed the attention of physicians, in various parts of the world, to the discriminating phenomena of the

genuine and spurious vaccine pock. Among others who have communicated their observations in regard to this important subject, Dr CRAMER has published a short essay in the February number of the "*Journ. der Practisch. Heilkunde*," (1828,) entitled, "Observations on the Appearance of the False Cow Pock;" of which we subjoin a brief summary.

While the progress of the genuine vaccine pock is perfectly regular, each succeeding change takes place at certain intervals, from the first appearance of the red point at the place at which the matter was inserted, to the complete formation of the crust or scab; on the contrary, the pseudo vaccine pock is irregular in all its phenomena, is always of a larger size, is more rapid in its progress, and occupies a much greater extent of surface than the former. Even on the day subsequent to that on which the matter was inserted, a large red pock is formed, which is speedily filled with a purulent fluid, the covering of which giving way, a suppurating surface presents itself; or else the covering is converted into a soft yellow crust, into which the whole mass of the pock becomes speedily changed. This false pock is surrounded, from the first, by an extensive and very vivid erysipelatous inflammation, (the supposed areola,) beyond which the skin is somewhat swollen. The inflammation frequently occasions, on some part of the surface it occupies, small vesications. 2. While the areola of the genuine pock has a regular form and size, and is attended with a certain degree of tumefaction of the part over which it spreads; in the pseudo-pock the erysipelatous inflammation by which it is surrounded spreads itself irregularly, is always more extensive than the areola of the genuine pock, and is accompanied with a much greater degree of tumefaction. 3. While the lymph of the true vaccine pock does not appear until after the fifth or seventh day, and is always inclosed in distinct cells, a puriform secretion is, in the false pock, furnished copiously, even on the first days subsequent to the insertion of the matter, unconfined in separate cells. 4. The pustules of the false pock frequently burst spontaneously, and give rise to a free suppurating surface. 5. On the eighth day, the false pock is often entirely converted into a scab, which most commonly exceeds in size, and is of a much darker colour than the crust of the genuine disease; and is generally surrounded by a bright redness of the adjacent skin.

17. *Paralysis from Lead. Dissection.*—Mr GEORGE KITSON, of the Bath Hospital, has published in the London Medical and Physical Journal for October a dissection of a case of this affection; and as opportunities of examining such subjects are very rare, we insert an abstract of it; notwithstanding we have to regret that he does not give us any account of the *abdominal* or *thoracic* viscera, nor does his attention seem from the narrative to have been particularly directed to these latter.

John Mastin, a painter, aged 40 years, had been at sea, and lived freely; had suffered three attacks of "dropped hands," of which the last was the most severe, and was preceded by colic; having occurred three months before his admission into the hospital on the 11th of July 1828. He made no complaint whatever; tongue white and furred; mind somewhat confused; pupils dilated. —Cathartic pills; and "an antimonial saline."

13. Acute pain across the chest; pain in head; pulse 96, full, hard, bounding; tongue parched.—Venesection; the "saline" every three hours; cathartic pills.

14. Blood buffed and cupped; much relieved; pulse softer; tongue moist.

16. "Some pain in head."—Leeches to temples.

17. Some relief from leeches; appearances indicated that disease was going on within the head.—Cups and blister to nape of neck.

18. Feels rather better; some confusion of mind, but can answer questions distinctly.

19. Seemed better; pulse 90; tongue moist; bowels open.

20. A tendency to coma.—Head shaved and cold applied to it.—Night. Blister to vertex.

21. Pulse 72; apparently intelligent in answering questions, but mind confused, and obviously much disturbance within the head; calomel, two grains every four hours.

22. Died early in the morning.

Sensation had not been defective; nor was there any paralytic affection of the lower extremities.

Dissection, nine hours after death.—*Head*. A considerable quantity of dark coloured fluid between the dura mater and arachnoid membrane. Colourless fluid between the arachnoid and pia mater. State of pia mater and spots of blood exhibited in dividing the medullary substance, "gave no reason to suppose inflammation had existed." Brain uncommonly firm. Cortical substance pale. No fluid in the ventricles.—*Spine*. Theca vertebralis distended with bloody fluid. Pia mater covering the cord in its passage through the inferior and superior dorsal vertebræ, injected with blood, so much so that, for about three inches in the anterior surface, the membrane was uniformly of a bright red colour. Posteriorly, the membrane was less vascular, and less firmly attached to the cord; the superior part of the pia mater had the usual appearance, and it gradually approached the natural state as it descended to the lumbar region.—*Thorax* and *Abdomen*. Condition not reported.

In the whole of the above narration we have nearly employed the author's words; taking the liberty, however, somewhat to alter the arrangement. It is not unfrequently our custom to do so; especially where we perceive any uncertainty in our conveying the correct meaning. Mr Kitson apprehends that the paralysis was owing to the affection of the portion of the spinal marrow from which the axillary plexus is given off; and that there was no inflammation within the cranium, the fluids formed there having flowed upwards from the spinal canal, and produced the mental disorder by pressure. We can not coincide in these views. Besides the oversight evidently implied by referring the origin of the nerves of the axillary plexus to a region situated within the inferior and superior dorsal vertebræ, (we cannot suspect Mr K. of such a serious anatomical error,) we apprehend that, after looking over the writings of Lallemand, one would rather refer a part of both the symptoms and necroscopic appearances to the existence of arachnitis within the cranium. We can not, for example, see how the fluid in the cellular substance under the pia mater could have been deposited there in any other way. The case is, however, a very curious and valuable one, and should be noticed by every one who is studying the subject of paralysis from lead.

18. *Vital Resistance*.—M. Jules Cavalier, adjunct physician to the hospital at Draguignan, has published an essay in the Revue Medicale, the object of which is to show the uncertainty of all prognostics, founded upon the mere knowledge of the disease. According to him, the power which individuals possess of resisting the inroads of disease upon the constitution, varies extremely, and bears no proportion to the ordinary visible signs of health. Quoting the language of M. Martinet, he states that this power "may exist in the highest degree in the weakest individual as well as in the most vigorous, and in the most irritable subject as in the least so; and in fine, appears to be entirely independent of those predominances of particular organic structures which we term temperaments." Without taking the degree of this power into the account, all predictions of the probable event of disease are uncertain and fallacious; nor is the case, in fact, much better when we do take this power into consideration; for, as M. C. is obliged to confess, we possess no certain or even very probable means for judging of the amount of this preservative power. To what purpose, then, do inquiries of this kind tend? Mainly to show the uncertainty of *all* prognosis; and, in M. Cavalier's hands, to demonstrate, not the inutility, but the limited power of prediction furnished by the Broussaian and the organic medicine. M. C. thinks that the pupils of these schools are too prompt to pronounce a case incurable, because they have ascertained the existence of extensive and complicated irritation, or of disorganization. In the application so often

made of this argument by the teachers referred to, we can fully concur; they are abundantly in the right to argue strenuously for the importance of an early attention to the forming stage of diseases. *Venienti occurrite morbo.* It is unfair, says Dr BROUSSAIS, to demand that physicians should cure tubercles and hepatizations: you should have brought the patients to them sooner, and these ravages might have been prevented. Yet we do think that patients occasionally suffer from the despair of their physicians. LAENNEC has shown that pulmonary tubercles *can* heal; and the recollection of any one who has been accustomed to direct his mind to diseases will present to him cases in which persons, affected with all the deplorable symptoms of these disorganizations, have recovered, after removal to a warm climate or otherwise, in a manner that astonished all their friends.

Our author alludes to instances in which physicians have predicted the death of individuals affected with alarming diseases; and some bystander has inflicted on them a merciful disappointment, by predicting the patient's recovery, and proving, by the event, that they were in the right. "Of all medical tribulations which wound our self-love, this," says he, "ought to bring with it the most consolation." True; and in addition, the practitioner, among his friends, we believe, is very apt to run off with no small portion of the credit of the cure. We do not think his patient's unexpected recovery can ever wound a philanthropic physician; and to those who have their interest more exclusively in view, we cannot refrain from quoting the lines of the Satirist.

"I paint a patient bad as e'er I can.
"'The case is desp'rate: he's a dying man!'
"Then, if he dies, 'why he's a prophet, sure!!'
"And, if he lives, 'God bless me! what a cure!!!'"

M. CAVALIER has furnished us, in exemplification of his opinions, with six cases of extraordinary recoveries, after a long course of the most unpromising and exhausting maladies. They are certainly surprising, and do both the physician and the powers of nature great credit.

19. *Armstrong on Gastro-Enteritis.*—At length it may be boasted by Dr BROUSSAIS, that he has made a complete convert to the fidelity of his diagnosis of one of the distinguished writers of Great Britain, not one of the half-and-half men, who acknowledge that there "is something in" a doctrine, but show, by their neglect to give it a deep investigation, that they are unwilling to believe in its alleged importance; nor yet one of that other class who content themselves with compiling a little, here and there, to add to their former doctrines; but one who has come out manfully with a distinct avowal of the truth of the indications of gastro-enteritis, and goes into an elaborate examination of them. Yes! the Dr ARMSTRONG, whose work on Typhus Fever is in our hands, has actually published the first fasciculus of a set of plates of inflammations of the "bowels, liver, and stomach;" and can see symptoms of the first and last in those appearances which are of so frequent occurrence, and have been so much disputed.

Fresh books pour upon us so fast, that we are often reduced to the difficult dilemma, of either noticing them in the quarterly summary, in a brief and currente-calamo way, unworthy of their real value, or of gradually losing sight of them by *indefinite postponement.* We cannot refrain from embracing the opportunity to make known the appearance of Dr ARMSTRONG's work; while, at the same time, we do not wish to prohibit ourselves from analysing it at a future time, should it suit the convenience of this work. We principally employ JOHNSON's Journal.

"If," says Dr A., "we take the acknowledged products of inflammation, as seated in this or that texture, and to them add tubercle, scirrhus, fungus, and melanosis, we have at once a bird's eye view of the most important changes which occur in the solids." The fluids, however, are of great importance in Dr ARMSTRONG's eyes; and he occupies some space in remarks upon varieties in the

quantity, *velocity*, distribution, secretions, &c. of the blood. He apprehends that various eruptive diseases are produced by the passage of impurities into the blood; and hopes for a time when they may be remedied by means which act directly on that fluid, without the destruction at present made among the solids. Tubercle he esteems a secretion; and has seen bodies of this nature hanging like bunches of grapes to the capillary ramifications of the arteries. Scirrhus is, he thinks, deposited by the capillary exhalants; though he has not been able to see the connection in dissecting. He has never seen more than a single instance in which scirrhus and tubercle *co-existed in the same individual*. On maceration, the capillaries are found to be thickened, and rendered almost cartilaginous; and he asks whether scirrhus depends on an *inflammation of the coats of the small vessels*. Simple induration and softening are both results of inflammation; "fungus encephaloides" is distinct from cancer; and melanosis is thought to be a fluid, and possibly to depend on a chronic bronchitis, with which it has been accompanied in almost every case witnessed by Dr A., and which is capable of giving the blood a more venous character than is natural to it.

The first fasciculus is devoted to the stomach; and the morbid appearances in it are classed under the heads of "increased determination, inflammation, scirrhus, and fungus encephaloides." With regard to the frequency of inflammations in this organ, Dr A. wishes to assume a middle course. The continental school, in many instances, believe in its existence more frequently than he is disposed to admit; while the British physicians have not been sufficiently often aware of its presence. This, however, is qualified by his use of the term *increased determination;* under which he includes many cases which have been mistaken for inflammations, while he yet admits that real inflammation "is not so very uncommon a circumstance; oftener, however, assuming the chronic than the acute character." After cases of mere increased determination, he has found "none of the genuine products of inflammation, such as effusion, softening, thickening, and so forth; and thus it can be easily discriminated from the latter." Then, after stating that, shortly after death, the vestiges of acute and chronic inflammation of the serous and mucous membrane of the stomach are generally very distinct, Dr A. proceeds to describe the ordinary appearances, of arborescent ramifications of vessels, red dots, and stellated spots, in language which does not differ materially from our common ideas on that subject. He enumerates, among signs of inflammation, the opacity of the serous membrane, the diminished coherence of parts, and the depositions of fibrine, pus, serum, or various mixtures of these substances, and of a large quantity of gas.

In his discrimination between acute and chronic inflammation, he makes a distinction for which we are not prepared. In the *chronic* affection, there is a "greater injection of the larger as well as small branches of the veins, by which a darker colour is given to the part." We apprehend that, besides the great danger of mistaking the results of mechanical settling of the blood, after death, for chronic inflammation, as thus characterized, we should have rather expected to find acuter disease affecting the larger branches, and the chronic forms, in which the heart and large vessels sympathize so little, confined to the capillaries. This is not the place, however, for anatomical or physiological discussions.

In the chronic, the thickening and opacity are stated to be more evident; as might be expected. Dr A. disagrees with Bichat and Laennec, who supposed that serous membranes had but a single lamina, and that when they were increased in thickness, this took place, not by depositions between layers, but by additions to the polished surface. Dr A. has been able, by maceration for ten or twelve weeks in nearly equal portions of vinegar and water, to divide the peritoneum into two or more laminæ. In the cellular matter uniting these, he conceives to be deposited the albumen and fibrine which cause the thickening. If the former predominate, the membrane becomes softer; if the latter, denser. Softening is a common appearance—ulceration is rare, and when it does occur, is generally secondary to an ulcer of the mucous surface.

Our author is forced by the evidence of facts to acknowledge the truth of the

assertion, that inflammatory action may, and does, produce the most contradictory effects; as thickening and thinning, softening and hardening, preternatural redness and preternatural whiteness. These he explains somewhat hypothetically, by supposing that, in the one case, the action of the venous capillaries predominates, in the other, that of the arterial.

Symptoms.—We do not gather from Dr ARMSTONG any distinct avowal, whether gastro-enteritis be, or be not, a circumstance of daily and ordinary occurrence in *fevers:* he does not seem prepared for this; and we presume would still make a great number of the latter depend on venous congestion. He leaves his reader, however, at liberty to judge of their frequency by his descriptions; and, of a truth, judging by these last, we should say that it was *generally* present in the *typhus fevers* which we have witnessed.

Acute sero-gastritis.—"If the serous membrane be alone acutely inflamed, there is an urgent pain in the region of the stomach, increased considerably by pressure there, and even by a deep inspiration. The breathing is hurried and anxious, the skin hot, the pulse quick and remarkably small, but for some time it will be found harder or more incompressible than in health, only becoming really weak and soft towards the close. The tongue is covered by a whitish fur, and the stomach is very flatulent and irritable throughout, nausea, retching, or vomiting being present, especially when any food or medicine is given."

Subacute sero-gastritis differs only in degree from the former. The fever is lower, and the local disturbance less: the progress is slower, in the proportion of two or three weeks to a few days. There is more frequently only a loathing of food, with occasional nausea, till towards the conclusion, when vomiting supervenes.

Chronic sero-gastritis.—Fever is here either wholly absent, or, if present, has a slow, consuming character. It has not been a common circumstance, in Dr A.'s dissections, to find chronic inflammation confined to the serous membrane of the stomach alone, it generally being complicated with chronic inflammation of the serous membrane of the bowels or the liver. Its indications are at all times obscure; but the foregoing combination tends to render the diagnosis still more difficult. It may, however, mostly be detected by the symptoms having a permanent seat and character, and by the effects of the disorder being increasingly marked on the frame at large. There is more or less pain in the epigastric region, aggravated by moderate pressure, and accompanied by a sense of distention and confinement, particularly after any thing like a full meal. There is constant uneasiness about the stomach. It may be at times obscure, but is liable to be increased by whatever offends that organ; which is then always more flatulent and irritable than usual. The flesh wastes, the skin acquires a sickly hue, the mouth is dry or clammy, the tongue is covered with a whitish fur in the centre, and is not only pale about the top and edges, but often appears as if it were broader than before the attack.

Acute and *subacute muco-gastritis.*—The pain is of a more burning kind than in the acute sero-gastritis, and the desire for cold drink more insatiate—the pulse is softer—the fever less ardent. The tongue is pale at the point and sides in acute *sero*-gastritis, but in muco-gastritis, the tongue is vividly red at the point and some way round the margin; nay, often thus coloured over a considerable portion of its surface. Both the serous and mucous inflammations are in common characterized by a concentration of heat about the epigastrium, irritability of the stomach, and anxious respiration.

Chronic muco-gastritis.—This is a far more common disease than the acute or sub-acute forms. It is attended generally by a vermilion tint of the tongue at the tip and edges; while the papillæ, for the most part, are also red, and are raised like the points in a strawberry. Chronic muco-gastritis and chronic bronchitis are often conjoined; and then the papillæ have a purplish cast. But the most certain sign is pain or uneasiness uniformly after meals; which increases as the disorder goes on, and which is accompanied by general wasting, and an acceleration of the pulse, with pallidity of the skin and slow fever. The temper, too, is more easily ruffled than natural, and the spirits depressed. If a doubt exist

as to the nature of the disorder, it may generally be removed by the exhibition of a diffusible stimulus; which always increases the uneasiness in the stomach if chronic muco-gastritis be present. Now that this treatment is so prevalent, from the remains of a vague and erroneous philosophy respecting dyspepsia, the young practitioner would do well to recollect the test already named, which may be safely relied on in almost all dubious cases; and, on the other hand, it is equally necessary to be guarded lest evacuations should be used where stimulants are demanded. In fact, there is a painful affection of the stomach acknowledged by our author, which is not inflammatory, and which is relieved by stimulants. His description of it answers to the most common ideas of gastrodynia, or cardialgia.

Dr Armstrong is far from uniting in the alleged observations of Mr John Hunter, relative to digestion of the stomach after death. In all the instances of perforation which he has seen, the most unequivocal signs of disease existed before death. "In those cases which occurred in adults, a sudden and severe pain arose, with vomiting, as if the patient had taken an acrid poison, and the fatal stage of sinking took place within forty-eight hours from the attack; but the infant whose stomach is represented, lived about seven days after the violent seizure; having been previously weaned and weakly, from the history of its mother. The dissolution of the stomach was announced by sudden and severe fits of crying, attended by a distressing sickness and retraction of the lower extremities towards the abdomen. The epigastrium was hot, the integuments of the belly hard, the pulse quick, and the respiration anxious. Diarrhœa supervened, the face gradually assumed the hippocratic character, and the extremities became cold. Such were the leading symptoms in the other cases which happened in my practice after weaning; all having been more protracted than those of the adults. It is not my intention to deny that the gastric juice may dissolve the stomach now and then after death; but, in the preceding cases, disease certainly existed in that organ, and was apparently the cause of the dissolution. If it be asked, what was the nature of that disease, I answer that I do not know. The mucous membrane is sometimes attenuated and even destroyed by inflammation; but occasionally similar changes take place from a process seemingly not inflammatory; and as, in the fore-mentioned cases of dissolution, the usual traces of ordinary inflammation were not present, it is not logical to refer the effect to that cause. It may be, however, that some change does take place in the mucous texture or in the blood, by which the secretion is so altered as to act destructively upon the stomach during life; but, as there is no end to conjecture where observations are too imperfect for legitimate deductions, I must leave this point of pathology to the consideration of succeeding inquirers."

Our readers will by this time be of opinion, that most of this is very good Broussaisism and Andralism. The modern discoveries have *truth* to recommend them; an immense advantage over the great bulk of those hypothetical theories with which some have compared them; and a circumstance which enables them to force their way in opposition to all the prejudices which Mr John Bull is reputed to entertain against the notions of his Parisian neighbours. But we apprehend this conversion of Dr Armstrong will prove somewhat unexpected, and be annoying to some of his fautors in these parts, who have taken his Treatise on Typhus, and its doctrines of venous congestion, as a resting place, whereon to erect an abiding habitation, in defiance of all the winds of doctrine which blow so variously across the medical world. We anxiously wait, at any rate, to see his "fasciculi" complete; and earnestly hope that some American publisher may be found adventurous enough to give us an edition of them.

20. *Delirium Tremens.*—M. Leveille has read a memoir before the Academie Royale de Médecine, on "la folie des ivrognes, or le delire tremblant." He cannot speak, from observation, of the natural cure of this complaint. When properly treated he has not found it mortal. If left to itself, it diminishes in intensity, but generally ends in insanity; and this again in fatal apoplexy, exhibiting in dissection a serous effusion in the brain. Opium, in large doses, never

failed to cure simple delirium tremens, at whatever period of the disease it was administered. Convalescence was so rapid, that the patients were able, in general, to resume their ordinary avocations in a few days. In four cases, of several weeks' duration, the cure was effected in a few hours, and there could hardly be said to be a state of convalescence. The author considers the disease to be a simple "encephalopathia nervosa," unattended with inflammation of the brain, its envelopes, or the alimentary canal. A cerebral neurosis, however, may simulate delirium tremens, and yet be a very different affection, so far, at least, as the cause is concerned.

The reader will find a remarkable coincidence in nearly all the above views with those expressed in an essay on the subject in the fourth volume of this Journal, pp. 27. 52, and 205. 236.

IV. THERAPEUTICS, MATERIA MEDICA, AND THE PRACTICE OF MEDICINE.

21. *Ergot of Rye (Secale Cornutum).*—In the *Bulletin des Sciences Médicales* for July, we find a notice of a work published last year by M. COURHAUT, Health Officer at Chalons, and Medical Practitioner in the departments of Saone-et-Loire and of Allier, which contains some interesting particulars respecting the effects of ergotic rye, when used in quantity as aliment by the inhabitants. During what the author calls an *ergotic year*, when rye in which ergot predominates is eaten, the individuals so using it suffer from gangrene of the limbs. There is at first a tingling sensation in the part, which assumes a roseate hue; the pulse is gradually weaker, and finally ceases to beat; then follows coldness, swelling, violaceous colour, sphacelus, and a separation of the limb or a portion of it.

Ergotic bread used by nurses for four or five days dries up the secretion of milk. It causes abortion after ten or fifteen days use of it.

These facts are the more valuable as the result of extensive observation, and not pressed in support of any particular hypothesis. It is well to remark that the largest administration of the ergot as a medicine, cannot equal what is taken in the ergotic bread, and in which the baneful agent is nearly an eighth part of the whole mass. By such an estimate one to two ounces of ergot must be ingested daily.

The chief preventive and curative agent in the hands of M. COURHAUT, after abstinence from the ergotic bread, is ammonia, rubbed on the affected parts, and taken internally with bark. He asserts that he has had three hundred persons variously affected with *ergotism* under his care and has only lost one.

22. *The effects of certain Heroic Medicines on a Healthy Individual.*—A report of experiments bearing this title, has been published in BUCKNER's Journal, and we avail ourselves on this occasion of the abstract furnished by the *Bulletin des Sciences Médicales*.

The substances on which the author, Dr JOSEPH WALTL, experimented, were arsenious acid, belladonna root, opium, white hellebore, bitter almonds, extract of hyoscyamus, and Peruvian bark.

1. *Arsenic.* Six grains of *arsenious acid* in fine powder were thrown on burning coals in Dr WALTL's room, the coals having been taken away after they had ceased to give out any vapour. During the day the author experienced no inconvenience in his room; but, after he had been in bed for about two hours, he was awakened with a sensation of great anxiety and constriction about the trachea,—the pulse was irregular and accelerated, and he suffered from headache. After having opened the window and given issue to the vapours, he again went to bed much fatigued. This was followed by a copious sweat; and in the morning the only inconvenience was a little head-ache. Another person who had likewise respired the arsenical vapours, experienced the same ef-

fects but more intensely. It results from these premises that the vapour of arsenious acid acts chiefly on the respiratory passages with which it is in immediate contact. Dr W. is of opinion that this vapour, applied to the skin, but carefully excluded from the lungs, would be an efficacious remedy against ichthyosis.

2. *Belladonna root.* Two grains of the root of belladonna gave rise to vertigo, cephalalgia, somnolency, and a kind of drunkenness: the face became very red, and the pupils dilated. On looking at a book, the experimenter saw each letter multiplied. The dryness of the throat was very great. After four hours sleep, there was a complete return of the normal state. A quarter of a grain of the belladonna root failed to produce any effect. We must therefore be careful in ordering doses which shall neither be too large nor two small, if we wish to obtain good effects from it in the treatment of disease.

3. *Opium.* This substance, whether indigenous or exotic, at a dose of four grains, produced the phenomena of narcotism, which, as being familiarly known, need not be detailed here; there also ensued vomiting and sweating.

4. *White hellebore.* Two scruples of white hellebore in decoction with an ounce of water, furnished a liquid which was not acrid but rather mild. A tea spoonful taken fasting having produced no effect after the lapse of an hour, the experimenter took a table spoonful. In three hours afterwards, there was a burning heat of the body, and a copious sweat of five hours duration. Six hours after the ingestion of the liquid, the eyes could not tolerate the light, the head was forcibly applied against the chest, so that the slightest effort to restore it to its natural position caused a most violent head-ache and intolerable pain of the occiput. The pulse was very much accelerated—there was sometimes a sensation of coldness and sometimes of heat, with great fatigue: there were finally ten evacuations by vomiting, and still more numerous ones per anum. The decoction had been taken at eight o'clock in the morning. At seven in the evening there was a feeling of appetite: the night was past tranquilly, and on the following day nothing unusual occurred. It follows from the above that we must be cautious in the doses of the white hellebore, when it seems to be indicated by the nature of the disease.

5. *Bitter almonds.* These, when taken fasting in doses of half an ounce, produced, at the expiration of half an hour, violent pains of the head and nausea for three hours. There was no other sign of poisoning. Ammonia inhaled in a gaseous form gave no relief.

6. *Extract of hyoscyamus.* This substance, prepared from young plants which had grown on a rich soil, was often taken fasting in grain doses, but produced no effect; nor was there any more decisive result when the quantity was carried to six grains. This was probably owing to the experimenter having taken the plants when too young, and from a situation unfavourable to the development of its active principles. One ounce of the seeds of the henbane, bruised in a mortar, and mixed with six ounces of water and boiled for two hours, formed a very bitter and disagreeable decoction. Dr WALTL took the half of it in three doses at intervals of an hour, but without any effect. The dry and ripe seeds of the henbane would seem then to be as little narcotic as those of the poppy.

7. *Peruvian bark.* Two drachms of brown bark in powder, taken for three days, produced no effect. On the fourth and fifth day the appetite became very great and remained so for eight days. The alvine evacuations were fewer. The dose of the bark being carried as far as half an ounce per diem, the appetite was kept up to the same pitch without any inconvenience. Experiments prove therefore what was already known, that the bark is an excellent means of favouring digestion, especially when the stomach is in a state of atonic debility.

23. *Febrifuge Powers of the Leaves and Bark of the Olive Tree.*—The leaves and bark of the olive tree (*Olea Europæa*) are found, according to Dr PALLAS, to contain 1. A crystalline matter which he calls *vauquelin*. 2. A green colouring matter. 3. The bitter principle. The young bark contains most resin, gum, *vauquelin*, and bitter principle, and the leaves more of the colouring matter. Twenty-four cases are recorded by Dr PALLAS, in which the curative powers of

the extract of the olive bark were fully and successfully tested. He directs from half a drachm to a drachm of this substance in a gummy drink. Three drachms usually suffice to arrest the progress of an intermittent fever.

24. *Chronic Gastro-Enteritis.*—In a memoir lately presented to the French Academy of Medicine, by Dr DELORMEL of Paris, having the above title, the author insists on free topical depletion, emollients, and reduced regimen, as the speediest and most efficacious method of cure. His pathological views are not so very clear, and for the present we may pass them over; merely stating it as his opinion that every disease of a mucous membrane has for its origin some point of irritation; so that the first duty of a physician, even in the most chronic maladies, is to remove this irritation. In proof of his positions Dr DELORMEL adduces six cases of cure. To each patient were applied more than a hundred leeches, at different intervals; the most rigorous abstinence was prescribed. The convalescence began from the fifteenth to the thirtieth day of the treatment. We are assured by Dr DELORMEL that all gastro-enterites will yield readily and promptly to these means, provided the irritation has not caused a disorganization of what he calls the *primitive animal matter*, that is to say, the cellular tissue. While considering the employment of leeches as absolutely necessary, he reprobates that of purgatives.

Dr BOUILLAUD, the reporter in the name of the committee on Dr DELORMEL's paper, alludes to the contrasted opinions and practice of this latter gentleman and of Dr BARRAS, both of whom, with a very triumphant air, cite facts in their favour. The inference to be drawn by a reflecting physician is, that he ought not to pledge himself exclusively to any medical code—but, master of all the opinions and observations of his predecessors, adapt his remedies to what he is of himself assured are the exigencies of the case before him. There is very little doubt, however, that in so doing, he will find the rule on the side of Dr DELORMEL and the physiological school, and the exceptions on the side of Dr BARRAS and the dogmatics.

25. *Neuralgia of the Eye cured by the Extract of Belladonna.*—Dr AUDIBERT, the younger, gives in the *Ephém. Méd.* of Montpellier, two cases of exalted sensibility and acute pain of one eye, rendering it intolerant of light, cured by frictions of the extract of belladonna around the orbit. On the second day after this application the pains of the eye entirely disappeared. The remains of the neuralgia in the cheek and forehead of the first patient were removed, in a few days, by the use of the extract of stramonium, in grain doses night and morning.

26. *Of the Influence of Mercury on the Uterine Functions.*—Dr COLSON, in an article in the September number of the *Archiv. Gen.* insists that the derangements in the functions of the uterus occasioned by the use of mercury are, 1. Menorrhagia. 2. Amenorrhœa. 3. Premature expulsion of the embryo or fœtus. Cases are given in corroboration of this opinion. Amenorrhœa is of more frequent occurrence than menorrhagia under the mercurial treatment.

In expressing our qualified adhesion to the views of Dr COLSON, we must at the same time be allowed to say, that his cases are not conclusive evidence. They were all of females who had been subjected to the mercurial practice for the cure of syphilis; and in whom their prior course of life and the disease which brought them to the hospital, must have produced great derangement of the uterine system, or at least a predisposition in it to be readily affected by any medicinal or dietetic means.

27. *Delirium Tremens cured by Opium alone.*—Three cases of delirium tremens are related by Dr WITTCHKE, in the April number (1828) of HUFELAND's Journal, treated successfully by the administration of opium until sleep was procured. The first case occurred in a man 30 years of age; and was cured

in eighteen hours, by seven grains and a half of opium. It was given at first in doses of half a grain every hour—these were shortly increased to one grain, and, after three hours, to a grain and a half. About six months subsequently, the same patient had a second attack; of which he was cured in less than forty-eight hours by the exhibition of twenty-three and a half grains of opium; at first, in grain doses every hour, augmented shortly to one and a half, then to two grains. The second case occurred in a man about forty-eight years of age—cured in fourteen hours by twenty-one and a half grains of opium, administered in the same manner as in the former case. The third case was in an individual forty years old, cured in about thirty hours by twenty-seven and a half grains of opium, administered pretty much in the same manner as in the preceding cases. The symptoms of each case are minutely related; in all, the characteristic symptoms of the disease were present.

28. *Polydipsia cured by Camphor.*—Dr ALLERT of Bromberg, relates an instance of excessive thirst, which occurred in a female. Notwithstanding the incredible quantity of cold water drank by the patient, the thirst was not in the least abated. Her tongue was red, and her feet began to exhibit appearances of œdema. The cause of the affection could not be determined. After the employment of many ineffectual remedies, the patient was finally, speedily, and fully cured by the exhibition of large doses of camphor.—*Jour. der Practisch. Heilk. von Hufeland und Osann, Feb.* 1828.

29. *Extract from the Root of the Male Fern in Cases of Tape Worm.*—In the number of HUFELAND and OSANN's *Journal der Practischen Heilkunde* for January 1828, Dr EBERS, of Breslau, recommends strongly the extract of the male fern root (*Ext. filicis maris radicis resinorum*) in cases of tape worm. He remarks, that he has found it to be one of the most certain articles for the expulsion of this species of worms—destroying them frequently in a very short time; breaking up their organization, and in that state, in most cases, causing their expulsion from the body. In one or two instances, he found it, also, to cause the discharge of large quantities of ascarides. He administers the extract to adults in the extent of sixteen to thirty-six grains per diem, in doses of from eight to twelve grains every three hours, followed up next morning by the infus. sennæ comp. From the facts stated by Dr E., the extract of the fern root would appear to be an anthelmintic, deserving of a fair trial in the cases alluded to.

30. *Ointment for Glandular Swellings.*—Professor DUPUYTREN recommends the following as a formula for an ointment to be rubbed over the region of the engorgement. The stimulating action of the ammonia aids, he thinks, very powerfully the deobstruent property of the mercurial ointment. Take *strong mercurial ointment*, twenty-four parts; *hydrochlorate* (muriate) *of ammonia*, six parts. Mix accurately.

31. *Caustic Paste.*—Professor GRAEFE recommends, as a preparation adapted to destroy the callosities accompanying fistulas, *perchloride of mercury* (corrosive sublimate) two drachms; *gum arabic* and distilled water, of each twenty-four grains. Mix them with care. The paste is to be applied to the callous parts.

32. *Collyrium Siccum for Opacity of the Cornea.*—Take *red oxide of mercury* and *white agaric* of each half a drachm; *white sugar*, one ounce. Mix accurately so as to make a very fine powder. A small quantity is to be blown on the eye daily.

33. *The Effects of Entire Abstinence from Solid and Liquid Food.*—This is a question which exercises a very important bearing on therapeutics. It has

been the theme of much, and at times no very measured, discussion. It is one, moreover, which nearly and deeply concerns mankind at large, not only on account of abstinence being made a means of relief from disease by the professional attendant, but also on account of the possible widely extended application of the measure among all classes of society, without any other counsel than the consciousness of their being sick. The plainest dictates of instinct and arguments of common sense are in favour of its adoption under circumstances of bodily disturbance and disease; and it is to be greatly regretted that false theory and the vaguest analogies should have induced a portion of the medical community to discountenance it.

We wish at this time more especially to direct the attention of our readers to the *Experimental Inquiries* made by Dr COLLARD DE MARTIGNY; 1. *On the effects of complete abstinence from solid and liquid food on the organs of the body; on the quantity and composition of blood, and the nature and course of the lymph:* 2. *On the morbid alteration of the fluids; the proper time for abstinence and bleeding in certain diseases; the use of the lymphatic vessels; and the existence of a lymphatic temperament.*

The effects of entire abstinence on the organs, as evinced in dogs and rabbits starved to death, are general and excessive emaciation, and a diminished size and colourless state of the muscles. The heart has little volume, and, as well as the aorta, vena cava, and pulmonary artery, contains a very small quantity of blood. The lungs are entirely empty of blood; the lining mucous membrane is pale; the liver, spleen, pancreas, and kidneys are remarkably pale and small; their vessels empty, and parenchyma having little consistence. The vesical mucous surface is of a pale white. The gall bladder is of very considerable size, and distended with a large quantity of greenish yellow bile, limpid and very fluid.

The stomach is contracted on itself, the mucous coat exhibiting numerous folds, running in every direction, but especially from the cardia to the pylorus. The medium thickness of the stomach is a line and a half; its cavity is empty; the pyloric portion has a deep yellowish tint; when washed, its internal membrane towards the cardia is of a silvery whiteness, as HALLER has already remarked, and towards the pylorus of a yellowish white. *In no part did it exhibit the slightest trace of inflammatory alteration.*

Throughout the entire extent of the intestinal tube the mucous membrane is wrinkled; that of the small intestine is deeply coloured with a greenish yellow, which is less evident in the large intestines. *As in the case of the mucous membrane of the stomach, that of the intestines exhibited, in its appearance, colour, and consistence, no sign of inflammation.* Both the small and large intestines are of diminished diameter, and contain a greenish yellow matter; which, fluid in the duodenum, increases in consistence in proportion as we leave the stomach.

In one case, the intestinal tube contained, throughout its entire extent, a small quantity of a dark green matter of a very putrid odour. The mucous surface of the inferior portion of the small intestine and of the cœcum, in which it most abounded, was studded with violaceous spots. The mucous membrane of the stomach was strongly contracted and wrinkled, and of a slightly roseate hue at its pyloric extremity.

There is a notable difference in the duration of life between dogs and rabbits deprived of all nutriment; the carnivorous animals surviving much longer than the herbivorous. Age and size are also modifying conditions; since the older and larger the animal, the greater are its powers of living under a privation of all aliment. Thus, of three dogs submitted to the above experiments, the largest lived thirty-two days; the second, which was larger than the third, lived twenty-seven; whilst the third and smallest survived only twenty to twenty-one days.

The medium period in which three rabbits survived entire abstinence from food was ten to twelve days. It is greatly abridged if the animal be very young; as, in the instance of three rabbits six weeks old, two died on the seventh, and

one on the eighth day of starvation. A rabbit only three weeks old died on the night succeeding the third day of privation from food.

The contrast in the powers of enduring hunger between the carnivorous and herbivorous animals was clearly exhibited in the cases of the rabbits seven months old, and the third dog mentioned above. Their size was nearly equal, and yet the first lived but ten or twelve days, while the latter survived three weeks.

In rabbits there is much less general emaciation and loss of the cellular tissue of the parenchyma of the organ; the muscles preserve nearly three sevenths of their first size. *All the mucous membranes are white and without any appearance of inflammation.* The cavities of the heart, the beginning of the aorta, and venæ cavæ and pulmonary vein, contain a small quantity of blood. The small vessels and capillaries are destitute of this fluid; the cornea is sunken and rather cloudy. It was never observed to be ulcerated.

In regard to the *effects of abstinence on the quantity of the blood*, Dr De Martigny shows, by direct experiments, that there is a progressive diminution of this fluid throughout the entire period of alimentary privation.

Not only is there an *alteration in the quantity*, but also in the quality or composition of the blood after prolonged abstinence. The quantity of albumen is increased, that of fibrin diminished. For farther particulars on this head we refer to our department of chemistry; wishing on the present occasion to restrict ourselves to what has a direct therapeutical application in the experiments and inductions of Dr De Martigny.

This gentleman concludes his chapter on "*the effects of entire abstinence on the quantity and course of the lymph*," by saying that the velocity of the course of the lymph in the vessels must decrease in direct proportion to the diminution in quantity of this fluid: and that, towards the conclusion of the period of forced abstinence, the slowness of the course of the lymph is such that this fluid merely flows in drops, at intervals, from an opening made in the thoracic duct above the diaphragm. The first and immediate effect, however, of fasting is to accelerate the progress of this fluid. The change in the *composition of the lymph* after entire and prolonged abstinence is also distinctly shown by the author.

He asserts, in reference to the evidences of local inflammation designated in some of the examinations after death from abstinence, that these are a *complication*, and are at any rate of very rare occurrence; since out of eighteen animals opened and examined with the most scrupulous accuracy, he only met with three examples of this nature. Two of these had an evident origin. In the first, the microscopic ulcerations of the tracheal membrane were consecutive to an incision of the trachea, and probably also to the accidental introduction of dust or other light matters floating in the air. The violaceous spots of intestinal mucous membrane of the dog already mentioned, were due to the presence of excremental matters, become putrid and infectious in the intestine.

In the recapitulation of his subject, the author says that the *disease* produced by prolonged abstinence until death, is the result, 1st, of an alteration of the solids; 2d, and chiefly of alterations of the blood, which are at once the *mediate* and *immediate* causes.

The "*reflections on the proper time of low diet and bleeding in certain diseases*," without being long or profound, are nevertheless worthy of all attention. Abstinence has long been considered to exert the same effects which are produced by blood-letting, but in a slower manner. The author thinks that we rely too much on the safety with which low diet can be persevered in. What, he asks, results from this course? "The patient continually loses flesh; his sensibility and imagination are exalted, while his physical and moral powers are prostrated; his sleeplessness is increased; his weakness or concentration of pulse, paleness of the mucous surfaces, and diminution of secretions, announce the alteration in the quantity and composition of the blood. These are identical effects with those of general bleeding. Why then bring about slowly a state of things which we should tremble at causing with greater promptitude?" It might be said in reply that it is not these effects which the physician deprecates, so much

as a sudden general prostration and loss of balance between the heart and capillaries, which are occasionally caused by injudicious general bleeding.

The author next adverts to the exalted sensibility of the digestive canal caused by long withholding food, and the consequent inability, after a while, to tolerate it in a common or even reduced quantity.

A caution is given to the surgeon not to be too prodigal of the blood of a patient suffering from wounds or fractures, since it has been seen that the wounds of animals subjected to prolonged abstinence cicatrize very imperfectly.

A rigid diet is more especially of dangerous tendency in cases in which there is a purulent cavity in any part of the body, or a suppurating wound of a bad character. The first effects of fasting are, as already stated, a diminution in the quantity of blood and an increase in that of the lymph; that is to say, a very accelerated absorption—of course an absorption of the foreign and purulent matters from the sources above indicated. Among numerous other examples, the author cites the cases given by M. ANDRAL; in one of which, a woman with chronic nephritis, the thoracic canal was found full of pus, and, some time before death, there had been *marasmus* and *hectic* fever: in two other women dead of *cancer* of the uterus, and the pelves of whom contained putrid matter and many cancerous masses, the thoracic canal held a puriform fluid and a matter analogous to the cancerous masses. Instances are recorded by M.M. VALLERAND DE LA FOSSE, VELPEAU, and BOUILLAUD of encephaloid and cancerous matters in the veins. DUPUYTREN and MAGENDIE furnish similar cases.

The two last chapters of the long and interesting paper of Dr COLLARD DE MARTIGNY, are on the *functions of the lymphatic system*, and on the temperament characterized by the predominance of this system. These have been noticed in their proper place, under the physiological head.

34. *Iodine in Mammary Tumours.*—The August No. of the *Revue Medicale* opens with a paper on the above subject, by Dr BAYLE. In the first case, of a suppurated tumour of the mamma of long standing, a drachm per day of an ointment into which there entered six grains of the hydriodate of potass was prescribed, and the patient took also fifteen drops of the tincture of iodine, three times a day. At the expiration of fifteen days there was an evident amelioration. An uneasy dragging pain of the stomach indicated the necessity of desisting from the use of the tincture. The quantity of the hydriodate was progressively augmented, so that finally an ounce of the ointment contained two drachms of the salt. The tincture was prescribed, and occasionally discontinued, according to its toleration by the stomach. Applied by friction to the tumour itself, the tincture caused, three or four times, a general inflammation of the breast, requiring the temporary suspension of its use, and a recourse to emollients. But it was observable, that after each of these accidents there was a more decided progress of resolution. This treatment, persevered in for three months and a half, was productive of entire relief and a disappearance of all glandular engorgement. The general health was at the same time much improved, and the menses, which had been suspended for eighteen months, were restored.

The second case was of an indolent tumour of the breast, of a scrofulous appearance, of two years duration, and which, rebellious to the common methods of treatment of scrofula, was cured by the hydriodate of potass. A scruple of the ointment of the salt, introduced under the axilla every night, for six weeks, sufficed for this purpose.

The third case was of eighteen years duration. It was marked by an induration of two inches extent round the nipple, the consequence of a wound of that part, and accompanied by flying pains. For three months before beginning with the iodine, there had been an increase of the tumour by a fall; it was hard, bilobular, and the seat of frequent and lancinating pains. A resolution of the indurated gland was accomplished by means of frictions of the hydriodate of potass, and the tincture of the iodine internally.

In this case it was found that the excessive sensibility of the stomach, by which the patient was unable to retain a common purge, subsided under the

influence of the vinous tincture of opium. She was thus enabled to take, without interruption, the tincture of iodine, six drops three times a day, gradually increasing the dose. The omission of the laudanum for a single day caused the stomach immediately to reject the iodine.

In the fourth case, distinguished by a cancerous and fetid ulcer of the breast, with cachexia, there had been an amelioration of the symptoms produced by FOWLER's solution, and a return of all the bad symptoms by the use of compression.

The administration of the iodine by tincture internally, and by ointment of the hydriodate of potass externally, was followed by a rapid amendment, and nearly complete cicatrization of the ulcer. The general health was also much improved. Finally, however, there was a relapse, followed by death.

35. *Iodine in various diseases.*—The October No. of the American Medical Recorder has a paper of some length by Dr CARTWRIGHT of Natchez, entitled, "An experimental inquiry into the virtues of iodine and the hydriodate of potass in the treatment of chronic and sub-acute ophthalmia, iritis, scirrhous enlargements of the spleen, circocele, amenorrhœa and dysmenorrhœa, inguinal tumours, and a peculiar diarrhœa of the southern states." We give the title of Dr C.'s essay in order, in connection with what appeared in the last number of this Journal, to show the reader the large circle of diseases in which iodine is administered, and found not unfrequently successful. To the list might be added the cases related by Dr BROWN in Dr DRAKE's (Cincinnati) Western Journal, for June 1828.

36. *The Respiration of Cold Air in Pulmonary Diseases.*—Dr DRAKE, of New York, in a letter to Dr CHAPMAN, inserted in the November number of the American Journal of the Medical Sciences, continues to speak in high terms of the good effects of respiring cool air in some forms of pulmonary diseases. The greater part of his cases were chronic catarrhs of long standing, some of which had been preceded by hæmoptysis. Two additional cases of asthma are reported, as having been relieved, for the time, very speedily. The chief drawback to the inhaling cold air from the refrigerator, a plate of which is furnished by the author, is the more or less hurried breathing, and consequent fatigue and irritation following this necessarily artificial respiration. In most instances the pulse was rendered both slower and fuller; sometimes only fuller, and now and then somewhat more frequent.

37. *Of the Medicinal Properties of Leontodon Taraxacum.*—Mr HOULTON, in the London Medical and Surgical Journal for September, after adverting to the great discrepancies of opinion in regard to the dandelion, thinks that the cause is to be found in the different seasons in which the extract of the juice is prepared, and the corresponding variety in the activity of that sold in the shops. As usually obtained from the latter, it has very little virtue.

The most uniform and active preparation of this plant may, in Mr H.'s opinion, be obtained by carefully evaporating spontaneously the expressed juice of the roots taken up in August and September. In cases of chronic disorder of the digestive organs not produced by intemperance, its efficacy is frequently very decided. In visceral derangements from intemperance, Mr HOULTON did not find it of much service, but in females and other persons of sober habits, and of studious and sedentary pursuits, it has been very beneficial, increasing the flow of bile and allaying that uneasiness which the dyspeptic frequently experience about the hepatic region.

38. *Strangulated Hernia cured by the External Application of Belladonna.*—Such is the title of an article in the London Medical and Surgical Journal for October, taken from the *Obs. Med. di Napoli.* All the symptoms of strangulated hernia had been present for twenty-four hours, and all the customary remedies tried in vain, when M. MAGLIARI, the surgeon in attendance, had recourse

to inunction of the tumour with the extract of belladonna, ten grains to the half-ounce of lard. After using about half of this ointment in two applications, the vomiting ceased and the tumour was diminished in size, and a few hours after the hernia was all reduced.

39. *Prussic (Hydrocyanic) Acid in Gastrodynia.*—Mr J. C. JERRARD of Honniton, gives four cases (in the Lancet of September 20th) of gastrodynia cured by the use of the prussic acid. To the first patient, a female aged sixty, a drop and a half was given three times a day, and, after six days, two drops at the same intervals. The second and third, also females, took two drops three times a day in simple distilled water, with the like happy result as the first. The fourth patient, a male aged twenty years, used a drop and a half thrice a day for fifteen days and entirely recovered.

"In all the above cases the stomach *was tender upon pressure.* The diet recommended during the exhibition of the medicine was of a very light kind and in small quantities."

40. *Case of Epilepsy of Twelve Years Duration cured by Valerian.*—This case is recorded by Dr GAIRDNER in the Edinburgh Medical and Surgical Journal for October last. The patient was a female forty years of age, and mother of several children. She had been liable to the disease for more than twelve years. "The paroxysms were generally preceded by a sensation of *globus* in the throat. They commenced with a scream, which was immediately followed by total insensibility, violent agitation of the arms and legs, and contortions of the features. These convulsive efforts gradually gave way to sopor; and a considerable drowsiness lasted for the rest of the day. She had no remembrance after these fits of any thing that had occurred in the course of them. During the whole of the long period that she had been subject to them, there was never any regularity observed in the time of their recurrence, but the intervals had been progressively decreasing. At first she was often exempt from them for several months together, but at the time when I (Dr G.) was called, she was visited by this very distressing disease twice or three times a week, so that she had been forced to get a servant to assist her in her domestic duties, which she had formerly been able to accomplish without such aid. She sometimes had two or three attacks in twenty-four hours; but, when this happened, the second and third attacks were less severe, and did not produce total insensibility."

Dr GAIRDNER, without much expectation of affording her relief, recommended her to take a scruple of the powdered valerian night and morning. The memorandum of the case is dated in Dr G.'s case book in May 1814, four months after he first saw her. She had at that time taken in all only thirty six powders, and had been perfectly well from the time of the third attack. She has ever since (this account was written in 1826) continued perfectly free from epilepsy, though she has at different times been induced to take the valerian, warned by such sensations as used formerly to indicate the approach of the fit.

"I visited," continues Dr G., "this patient within these few days, and found her in excellent health, and in full possession both of her bodily and mental powers. She has not taken the valerian for more than six months, having all that time been remarkably free from those ominous sensations which formerly induced her to resort to it."

In reply to the doubts of some of his friends, of this being a case of epilepsy, Dr G. says that the question is purely one of nomenclature. "That it originated in the hysterical temperament there can be no doubt; that the symptoms which attended the paroxysms were those of epilepsy is equally indubitable."

41. *On Strangury from Cantharides and its Relief.*—Dr JOHN DAVY, in the Edinburgh Journal, after adverting to the inefficacy of the means commonly directed to relieve strangury after blistering, mentions that which he has found almost constantly to succeed. It is "the introduction of the catheter, used not with the idea of drawing off urine, but for the purpose expressly in question. It

should be employed with delicacy and caution, just slipped into the neck of the bladder, and kept there only a few seconds."

42. *Paralysis cured by Lightning.*—Other cases of a similar nature to the following one, taken from the Medico-Chirurg. Rev. for October, are on record.

"A vessel, while pursuing her course across the Atlantic, was struck several times with lightning, and the men were strongly electrified. Among the passengers was a man who had been paralytic of both lower extremities for more than three years. He was in bed when the electric discharge took place; and his shipmates were not a little astonished to see him jump out of his cot and march upon deck, where he continued to walk about, as brisk as any of them. The cure was not temporary, for he has enjoyed the use of his limbs ever since. We have lately seen some remarkable effects produced by strong shocks of electricity thrown along the nerves leading to paralyzed muscles; also in torpid states of the liver, when the galvanic fluid was thrown through that organ."

43. *Sir Matthew Tierney's Powder.*—Under this head we have, in the Medico-Chirurg. Rev. the following, which is said to be "a very useful extemporaneous formula."

Sulphatis Sodæ, ℥ iss.
Carb. Magnesiæ, ℥ ss.
Sulphat. Magnesiæ, ℥ ii.

The two sulphates are to be dried in an oven, till all the water of crystallization is completely evaporated, and then the whole three are to be well rubbed together and kept in a stopped bottle. The dose is one or two drachms, in a draught, or in a tumbler of warm or cold water early in the morning, repeating the dose if necessary. Its operation is very mild and pleasant.

44. *Means of arresting the Hemorrhage caused by the Bite of Leeches.*—Dr Ridolfo del Tacca, in a communication to the Medical Society of Leghorn, (*Repert. di Med. e di Chir. di Torino, luglio* 1828,) recommends the application of a cupping glass over the point whence the blood escapes after a leech bite. If there is but one bite the glass may be very small—if they are more numerous and near each other, it may be larger.

This means, which would at first sight seem to favour the escape of the blood, and does so in fact for the moment, soon causes, by the pressure exerted on the bite, a coagulum and the consequent cessation of the hemorrhage. After removing the glass, care must be taken not to touch the coagulum, but merely to wipe away the fluid blood around it. Should the first application of the glass fail, it may be renewed a second or even a third time.

45. *Anthrax cured by Mercurial Frictions.*—Dr Ferramosca (in the *Giornale Medico di Napoli*) cites his own, and five other cases of anthrax, in which the cure was, in his opinion, referrible to the free use of frictions of mercurial ointment performed on and in the vicinity of the diseased part. The actual cautery had been applied to himself on an erysipelato-gangrenous tumour of the left angle of the lower jaw, consequent to a wound of the finger in dissection. To his patients he gave, in conjunction with the mercurial applications, emetics, tonics, and even blisters.

46. *General and Local Bleeding a Remedy in all Cases of Poisoning.*—In the tenth number of the *Journal des Progrès*, is a letter from Dr Vernier to the Royal Academy of Medicine, on this subject. After adverting to the simple means by which he had succeeded in extracting the poison from a wound in which it had been introduced, the author gives two cases, strikingly corroborative of the good effects of general bleeding after the application of a poison, and its operation on the animal economy. Three grains of the alcoholic extract of the nux vomica, prepared at Pelletier's,

were spread over a wound made on the right cheek of a small dog. After the lapse of six minutes, during which time the jugulars were moderately compressed by his two thumbs, Dr V. caused the jugular vein of the poisoned side to be exposed and opened with a lancet. The blood flowed in abundance, and the animal, placed on its feet, suffered no other inconvenience than from a slight weakness. Under the skin covering the dorsal surface of the right anterior paw, three grains of alcoholic extract, similar to the above, were introduced, and a strong ligature immediately put round the limb. After five minutes' application, the poison is carried away by repeated lotions. The wound being quite clean, the animal was put on its feet and walked quietly; but it was soon seized with tetanic convulsions of extreme violence. A large bleeding was immediately performed by Dr V. from the jugular vein; the blood flowed copiously, and in half a minute's time the convulsions ceased, and the animal, again restored to liberty, walked as before; only, from time to time, some rattling expirations were heard, which soon disappeared.

The tight ligature, having, in this instance, suppressed both the arterial and venous circulation, had prevented the local plethora from taking place, (a condition which Dr V. thinks necessary for protection against the virulent substance,) and the poison had impregnated the cellular tissue; and notwithstanding all the care taken to wash well the wound, there was enough of the poison imbibed to cause, after the removal of the ligature, a most violent tetanus.

This experiment proves both the inutility of a very tight ligature round the limb when the poisoned blood is not allowed to escape outwardly; and that, even after the poison has penetrated into the system, it is possible, by large general bleeding, to reach the poisonous matter and expel it from the animal economy. By this means Dr V. thinks that all the infected blood in the large veins, lungs, and heart, and even the large arteries, from which a retrograde movement might take place, would be carried out of the body, without the general mass of the blood having undergone a dangerous diminution. What remains of the poison in the arteries and some small veins, being diffused through the whole circulatory current, would be so much diluted as to produce no sensible effect.

V. MEDICAL JURISPRUDENCE.

47. *Asphyxia by Submersion or Drowning.*—We obtain the following article on this subject from the *Journal de Chimie Médicale*, &c. for September last.

The late experiments of M. Orfila no longer allow us to entertain the smallest doubt of the possibility of water penetrating into the minutest bronchial ramifications of the dead body. Having plunged the body of a man, who had died thirty-six hours before, into a large bathing tub, filled with water, into which eight pounds of animal charcoal had been previously introduced, M. Orfila ascertained that, after the body had remained on its back for a period of six hours and a half, the turbid water had penetrated to the *last ramifications* of the bronchia. On cutting into any part of the lungs, and pressing lightly on the divided portions, an appreciable quantity of this water found issue. Not an atom was to be seen in the stomach. Two other experiments, made on two human bodies dead two days before, one of which was allowed to remain in the bath only half and the other three quarters of an hour, gave identical results; except that the turbid fluid did not penetrate farther than the division of the bronchia.

These facts lead us to the following conclusions; viz. that the presence of water, or of a turbid or muddy liquid in the bronchia, and even in their last ramifications, does not prove that the submersion took place during the life time of the individual, as many medical jurists have asserted. 2. That since the liquid above designated does not penetrate into the stomach after death, its presence in this organ may lead to the belief of the individual having been sub-

merged alive, provided it can be shown that this liquid had not been swallowed before submersion, nor injected into the stomach after death.

48. *Cases of Poisoning with Carbonate of Potassa.*—Mr Dewar relates two cases of this nature in the Edinburgh Medical and Surgical Journal.

"Case 1. On the 2d of November 1818, I was called to visit a little boy who had drank, according to computation, about three ounces of a strong solution of the carbonate of potass. I saw him an hour after the accident. The tongue, gums, and fauces were shockingly destroyed, the cuticle appearing as if seared with a hot iron; while the inside of the cheeks, roof of the mouth, and velum were entirely inflamed. He complained much, and vomited incessantly. Every attempt to swallow gave him great pain. Nevertheless, he was encouraged to drink vinegar and water, of which, under the assurance that it was to relieve his pain, he swallowed a considerable quantity. It was instantly rejected by vomiting. He took also an occasional mouthful of an infusion of linseed.

"It is almost unnecessary to say, that no remedy was of any avail; and he died in twelve hours from the time that he drank the caustic.

"On dissection the mouth presented the appearance I have already described. With the exception of a few small spots, the mucous membrane of the pharynx and œsophagus was completely disorganized,—scarcely any trace of the natural structure could be perceived. Blood was universally extravasated between the muscular and pulpy mucous coats. The stomach was generally inflamed, but especially along the greater curvature. In two places, about the size of a shilling, the mucous membrane was destroyed, and the injured surface was covered with clotted blood. In many places blood had been extravasated between the mucous and muscular coats. The stomach contained a small quantity of a bloody fluid. The peritoneal covering was not affected. None of the other bowels seemed in any way injured."

The second case was of a married woman, of intemperate habits, who had been all day (22d July, 1827) indulging freely in whiskey, and who, by mistake, drank a wine-glass full of a strong solution of the carbonate of potass.

The effects were evinced in the following order: acute pain of the stomach at the moment of ingestion; vomiting;—on the next day, some uneasiness over the epigastric region on pressure, and an inclination to vomit; the mouth and fauces were covered with a dirty brown slough, which rendered the surface nearly insensible to the touch; fluids, though swallowed without difficulty, scarcely reached the stomach, when they were followed by a sense of burning, and, in general, in a few minutes, were rejected by vomiting; look haggard and exhausted; and great agitation.

On the fourth day there was diminution of the vomiting and pain of the stomach; but the sloughs in the mouth began to separate, and a burning heat in the fauces and gullet immediately supervened. The pulse was quick, the skin hot and dry, and the thirst very urgent.

During the following week, large portions of tough matter, sometimes firm and adherent, like leather, were brought up by coughing, hawking, or vomiting. Gradually, the surface, so far as could be seen, became clean, though raw, and the burning and pain on swallowing were most distressing.

After a month had elapsed, the mouth and fauces began to assume a more healing appearance; the pain and difficulty of swallowing diminished; the stomach generally retained both food and medicine; the fever in a great measure subsided; and had the circumstances been more favourable, there was reason to hope that her life might have been saved. But so addicted was she to unrestrained indulgence, that no admonitions, no experience of its baneful consequences, could induce her to desist from a long continued habit of intemperance.

The consequence of this recklessness was at first difficult, and after a while completely obstructed, swallowing—in which state she remained for four days. After this time had passed, the thick buff coloured and tenacious coating which had formed on her tongue, consequent on the excesses above mentioned, began to separate; she hawked up a great quantity of a muco-purulent fluid; and the power of swallowing liquids returned. In the course of another day, the tongue

was clean, and exhibited the most exquisite specimen of the "beef steak tongue." The torpor forthwith vanished, and the symptoms of returning health began again to appear.

A bougie was readily passed into the stomach; but was productive of some pain, and communicated to the surgeon a sensation as if it grated over a rough surface.

Recovering from the relapse, her looks improved in a remarkable degree. Still the pulse continued quick; the tongue, throughout nearly healed, had a dry, bright red, glistening appearance, as if spread over with a coating of varnish; and the tenderness of the stomach on pressure, and the tendency to vomiting, never wholly subsided.

The author, to avoid tediousness, does not enter into the details of the different relapses (amounting in all to seven) which she suffered during the last four months of her life. In all of them the attack could be distinctly traced to some instance of gross irregularity, either in eating or drinking, or more commonly both.

Under these repeated attacks her strength gradually declined, and she died; having been unable to swallow any thing for six days previous to her death.

The treatment consisted, during the first two days after the ingestion of the poison, in the free application of leeches on the stomach, and followed by a blister, and the drinking of vinegar, largely diluted with water; gruel was the only food allowed. From the time that the sloughs began to separate, leeches were applied almost daily for a fortnight along the side of the neck, and the bleeding was promoted by warm fomentations. She was supported on milk; was encouraged to drink freely of an infusion of linseed; and had her bowels occasionally moved by castor oil, suspended in mucilage. From the period of the first relapse, Mr Dewar endeavoured to keep up a constant counter-irritation by the repeated application of blisters over the stomach, and along the sides of the neck and spine, by rubbing a portion of the surface with tartar emetic ointment, or by occasionally dressing the blistered surfaces with the ointment. To these means leeches and fomentations were uniformly conjoined during the acute attacks. The bougie was passed at two other times than the one mentioned above into the stomach; but, as Mr Dewar thinks, always with disadvantage. In the last attack but one, in which the obstruction to swallow continued seven days, Mr D. does not doubt that it was prolonged by the attempt to pass the bougie.

The bowels were in general regulated, without much difficulty, by castor oil, aided by common emollient injections; but upon two or three occasions, Mr D. was under the necessity of using some more active means, such as the compound powder of jalap, before any evacuations could be produced. The fæces frequently presented a very singular appearance, consisting of hard scybalous portions resembling a handful of nuts, floating in the fluid of which the injection was composed.

The body was opened on the day after death, in the presence of Mr Bowes.

"The first thing which attracted our notice was the enormous size of the liver. It descended to the crest of the ilium on the right side, and shelved forward so as to conceal, under its thin edge, a great portion of the intestines. It also descended into the hypogastric region to within (as we ascertained by measurement) two inches and a half of the pubis. The only deviation from its healthy structure which we could perceive was that it was somewhat firmer in its texture than natural. There was no appearance of disease in the intestinal canal; it was perfectly empty. The lungs were sound. The œsophagus was thickened in its coats, and contracted in calibre throughout its whole extent; the contraction commenced as the pharynx terminated, and increased until about two inches above the cardiac orifice of the stomach, where the stricture became so narrow that a probe could scarcely be passed. The thickening and contraction were not confined to the muscular coat; for the mucous coat was proportionally affected, and was no longer loosely attached to the muscular coat, but firmly incorporated with it. In several places the mucous coat was exten-

sively destroyed by ulceration. The stomach also exhibited marks of having suffered severely. There was no thickening or destruction of parts; but between the mucous and muscular coats, around the cardiac orifice, and particularly where the stomach bulges towards the left side, there were a vast number of spots of extravasated blood, varying in size from a pin's point to a barley corn. When the stomach was first removed from the body, its coats throughout were probably of a higher and more rosy colour than natural; but there was no trace of those minute ramifications of blood vessels which ought to be regarded as distinctive of the existence of recent inflammation."

Mr Dewar, in a note, suggests, without positively affirming the fact, the patient's excessive use of ardent spirits as the cause of the prodigious size of the liver. On one occasion, he says, she was constantly drunk for the almost incredible period of fifteen weeks; and during the whole of that time she consumed not less than half a gallon every day. During the first five of these fifteen weeks she was not undressed, nor during the last six.

49. *Examination of the Body of a Man who hung himself.*—At a meeting of the French Royal Academy of Medicine, M. Amusat gave the following account of the appearances of the different organs of the body of a man who had committed suicide by hanging.

The individual in question was forty years of age, of an athletic frame of body. He was found hanging in his own house at four o'clock in the morning: he had supped at seven the preceding evening, and had, it was supposed, hung himself between the hours of nine and eleven.

The penis was in a state of erection, and there had been ejaculation of semen. The body was quite warm when M. Amusat opened it; the face was but little injected, the penis was in a state of semi-erection, and rested on the right thigh; the scrotum being injected and of a bluish colour, as was also the glans penis and the posterior part of the thigh; at the inferior third of the leg, an ecchymosis extending to the aponeurotic covering was seen. The neck showed the mark of the rope, the skin was hardened, and as if burned; there was a circular depression of three lines in breadth, and the skin corresponding to this depression was dried, thin and transparent; the rimæ glottidis were very near to each other; and the opening was completely obstructed by mucus. The epiglottis was thrown back, and as if turned on itself, probably by the pressure of the rope; the os hyoides was unaltered; the common carotids were empty of blood, and, what is very remarkable, at the point corresponding to the stricture round the neck, their middle and internal coats were ruptured round the greater part of the circumference of the vessel, as they are when a ligature is tightly applied on an artery; the jugular veins and the eighth pair of nerves were unfortunately not examined. The tongue had been returned into the mouth, but its superior surface exhibited the stamp of two molar teeth. The brain was discoloured, the arachnoid of an opake white, and a serous effusion had taken place, not only in the cranium, but also in the spinal canal; the cerebellum was sound. The bronchia were engorged, the lungs filled with blood, especially backwards and downwards; the right auricle of the heart contained only a small quantity of fluid blood mixed with air. The pharynx and œsophagus did not exhibit any thing peculiar. The stomach, which was empty, was inflamed and had some small ulcerations; the chyliferous vessels were full of chyle and very evident to the sight; the intestines were very much injected, especially those which were in the pelvic cavity, and they were filled with bloody mucus. The liver was gorged with blood. The kidneys had a violaceous hue. The spleen did not participate in the congestion of the other organs. The bladder was half full. The testicles were very large, the vesiculæ seminales empty. The bulb of the urethra was of enormous size, and filled with blood. In this subject the fleshy fibres which surround the membranous part of the urethra were very apparent. M. Amusat proposes calling this part *muscular*.

50. *Asphyxia.*—M. Leroy, in a memoir presented to the Royal Academy of

Medicine, in 1826, had pointed out the dangerous consequences of pulmonary insufflation—a means so commonly had recourse to in order to restore vitality to drowned persons. He showed that it was sufficient for air to be driven once with force into the chest of rabbits and sheep to produce in them instant death. In a new work, M. LEROY, by still more numerous and diversified experiments, endeavours to prove that pulmonary insufflation, so far from being entitled to the first place in the treatment of asphyxia, ought only to be practised in particular cases, and with great circumspection.

The principal facts resulting from the experiments of M. LEROY are the following:

The dangers of insufflation are in the inverse ratio of the resistance and density of the lungs of the animal. Thus the specific gravity of the lungs of a dog is double that of a sheep, and accordingly insufflation, almost invariably fatal to the latter, only produces in the dog a great difficulty of respiration, and rarely death. The density of the lungs of the new born child is greater than that of the adult, and hence we may infer that pulmonary insufflation would be less dangerous to the infant, and such according to the experiments of M. LEROY is the fact.

Death from sudden insufflation depends on various disorders. There is almost always a rupture of the pulmonary cells, the air is effused into the cavity of the chest, compresses the lungs which are shrunk, and prevents respiration. When death after sudden insufflation is not accompanied by effusion in the chest, air is found in the blood vessels, and ecchymosis on the surface of the lungs.

M. LEROY, in accordance with the opinion of DESGRANGES, thinks that asphyxia by submersion is the direct effect of syncope, and that the greater number of drowned persons recalled to life after a certain interval, had been seized with fainting at the moment of immersion, so that the circulation was stopped at the same time with respiration and dark blood did not flow into the arteries. That the inference from this belief was not acted on is a matter of astonishment to M. LEROY. The treatment for syncope is that which ought to be put in use in cases of asphyxia from submersion. Galvanism over the diaphragm by means of fine needles has been proposed by the author; but this demands some time and preparation, and can only be done by a physician. M. LEROY has, since he proposed this plan, tried with advantage the practice of simple pressure on the thorax and abdomen; the ribs and diaphragm thrown back by this manœuvre return on themselves in virtue of their elasticity, and cause an enlargement of the chest, and consequently the entrance of air which may be expelled by renewed pressure. These movements make an artificial respiration.

VI. SURGERY.

51. [The following account of an interesting operation was communicated to us by Dr RANDOLPH too late to assume its proper place in the Original Department. We hasten to present it to our readers; and prefer its appearance even in the present more obscure situation to a postponement to a future number.—ED.]

Case of Aneurism of the External Iliac Artery, treated successfully by tying up the Vessel. By J. RANDOLPH, M.D.

I performed this operation on the 28th of October, 1828. My patient's name was George Hitner,—aged 46 years, by profession a printer. Rather more than two years before this time, he perceived, upon getting up one morning, a small tumour in the right groin, which then was not larger than a hazel nut, and, upon being pressed, slipped from under the finger. Previous to this time he had enjoyed excellent health, and was accustomed to take a great deal of exercise. He did not pay much attention to this appearance until about June, 1828; when, being engaged in printing a paper for one of the medical journals of this

city upon the subject of aneurism, he was struck with the similarity of his symptoms with those described in the paper, and was induced from this to suspect that he was affected with the same complaint. He now showed it to Dr BELL, his family physician; who immediately pronounced it to be an aneurism, pointed out to him its nature, and advised him to submit to an operation for its cure. By this time the tumour had increased very considerably, and pulsated with great violence. Through the politeness of Dr BELL, I first saw him in the beginning of October; and, upon examination, found the tumour situated in the right groin, extending below and a little above POUPART's ligament; its longest diameter now measured about five inches, its shortest nearly four inches. In consequence of the patient's having recently suffered from an attack of intermittent fever, it was deemed proper to postpone the operation for a short time. On Tuesday, the 28th of October, at ten o'clock, A.M. I proceeded to the operation in the presence of Doctors PHYSICK, HORNER, BELL, GILLINGHAM, and DUNBAR, and Mr DORSEY, the patient having taken, two hours previously, fifty drops of laudanum. Having shaved the hair from off the pubis of the side to be operated upon, an incision was made, commencing about one inch within and a line or two below the anterior superior spine of the ilium, and continued in a semilunar form with its convexity downwards in the direction of POUPART's ligament, and terminating at the external abdominal ring. The whole extent of this incision was rather more than three inches. After carefully dissecting down to the tendon of the external oblique muscle, this tendon was divided, and the internal oblique and transversalis immediately presented themselves and were cut through upon the director. The finger was then passed down behind the spermatic cord, and the peritoneum slightly removed until the artery was felt distinctly, bounded on its inner side by the vein. I gently separated the artery from the vein with my fore finger nail, and believing the artery, from its feel, to be in a perfectly sound state, I passed the ligature under it without the least difficulty, by means of Dr PHYSICK's needle and forceps; I now tied it as firmly as possible, and the pulsation in the tumour instantly ceased. Two small arteries were cut before exposing the tendon of the external oblique; which were taken up. The patient complained very little during the operation, which occupied exactly sixteen minutes. The pulse for several days previous to the operation was 80. A quarter of an hour before the operation it was 72; a quarter after it was 64. At 4 o'clock, P.M. it rose to 76; at this time the temperature of the right limb was 90 deg. Fahrenheit, that of the left, 95 deg. Fahr. At 11 o'clock at night, the pulse was 80, full and regular. The difference in temperature between the two limbs continued about five degrees. The pulse continued about 80 throughout the night.

On the second day of the operation, I was pleased to hear my patient say, that he had enjoyed a tolerably good night's rest. The pulse, at 9, A.M. was 76, and very regular. But little difference could be perceived by the touch in the temperature of the two limbs, although the thermometer showed it to be between five and ten degrees lower at the toes of the right than of the left: at the knees the temperature was the same. The pulse did not rise above 80 throughout the day.

On Thursday morning, the third day after the operation, I found he had passed a good night; complained of nothing but fatigue from lying in one position; pulse throughout this day 75. Saturday, fifth day after the operation, I removed the first dressings, and found a considerable part of the wound united by the first intention: the granulations in the remaining part appeared quite healthy. The ligature was surrounded by healthy pus. As his bowels had not been moved since the operation, he this day took some rhubarb and magnesia, which was the first medicine given to him since the operation. On the twenty-second day the ligature came away, and a few days after he was permitted to get up and walk about the room, which he was able to do with but little inconvenience. The tumour in the groin is now very perceptibly diminished, and he walks about with great ease. I at first felt considerable apprehension lest the limb, in consequence of its being deprived of its usual quantity of blood, should become gan-

grenous, more especially from pressure by its lying too long in one position: in order to obviate this I had the position of the limb changed every hour. I also had a complete bed made for it of carded wool, which was changed whenever it became hard;—and at each visit I gently rubbed the parts about the heel and ankle with my hand, or a piece of soft flannel. In case any numbness existed, (and there was at times a slight numbness in the toes,) this always relieved it. The patient compared the friction of the toes to the winding up of a clock; he said they would run very well after the friction, until my next visit.

In conclusion, I would observe that the great facility I had in passing the ligature under the artery by means of Dr PHYSICK's forceps and needle, confirms me in the opinion, that it is the best instrument ever invented for the purpose of tying up deep seated vessels. I would also recommend, that the needle should be made of steel, in which case the surgeon will be able to push the instrument through the cellular substance surrounding the vessel without using his knife at all; by which means the artery need be but very slightly denuded, and the danger of the operation will be considerably lessened.

52. *Artificial Anus.*—In the third number of the Glasgow Medical Journal, Dr ANDERSON has reported a case of artificial anus, the consequence of the sloughing of a strangulated femoral hernia, treated by compression and the cautery. The disease had existed a month; the ulcer in the groin was very large, extending from the spine of the ilium to the symphysis pubis. It was three inches broad, ragged and sloughy, and a sinus extended down by the side of the labium, discharging purulent matter. The gut protruded as a round firm substance in the centre of the sore, and immediately above the protrusion was the orifice through which the fæces were evacuated. The patient was hectic and greatly emaciated; her pulse so frequent as not to be counted. Her debility was evidently the result of inanition; nourishing diet, wine, brandy, and also nutritive enemata were allowed.

The finger could be admitted into the gut; by which it was ascertained that only one side of the intestine was destroyed, and that the other side formed a continuous surface towards the abdomen. Hence the only important indication was to facilitate the passage of the fæces into the lower bowel. After several previous trials, recourse was had to a long cylindrical tent of lint firmly rolled up, which was pushed deeply into the gut, so as completely to fill the external aperture, and, in this way, nearly to maintain itself in position. Over this, graduated compresses were placed, and the whole supported by a light truss. The truss could not be borne, and firm bandaging was substituted. The next day flatus was discharged by the rectum, followed by natural evacuations, which continued to run. The ulcer was treated by chloride of lime and lunar caustic, and in six weeks was reduced to the size of a shilling. The tent was objectionable, as, resting in the gut, it obstructed the flow of the fæces in the tube, and hindered the cicatrization of the sore by forcing a portion of the contents of the intestine outward by the wound. On the 16th of January, (the treatment was commenced November 10th,) the opening was touched with the actual cautery; which checked all discharges for several days, and on the separation of the slough, produced a decided contraction. The cautery was frequently repeated, and the fistulous opening diminished to a very small point; the discharge was trifling and occasional: the patient's health was revived, and, at the end of April, she returned home, a small trifling fistula remaining.

53. *Amputation of the Lower Jaw.*—In the fourth volume, p. 320, of this Journal, will be found an analysis of Mr CUSACK's cases and observations of amputation of the lower jaw. We add another case, managed by Mr SYME of Edinburgh, as interesting from the size of the tumour and the great success of the operation. Robert Penman, aged about twenty-five years, first perceived a tumour of the gum near the molar teeth when sixteen years of age. The removal of three grinders rather aggravated the complaint, and the tumour became as large as a double fist. It was then extirpated from the bone, but again

formed and increased to a great size, until he came under the notice of Mr SYME in July 1828. The following description is given; and is accompanied by two engravings, showing the frightful aspect of the patient, which "mere words are altogether inadequate to express." "The mouth was placed diagonally across the face, and had suffered such monstrous distortion as to measure fifteen inches in circumference. The throat of the patient was almost obliterated, there being only about two inches above the sternum, so that the cricoid cartilage of the larynx was on a level with that bone. When the tumour was viewed in profile, it extended eight inches from the front of the neck. It completely filled the mouth, and occupied all the space below it, from jaw to jaw. The tongue was thrust out of its place, and lay between the teeth and cheek of the right side. The only portion of the jaw not implicated in the disease was the right ramus, and the base of the same side, from the bicuspid teeth backwards. The tumour, where covered by the integuments, was uniformly very firm, and for the most part distinctly osseous. The part which appeared through the mouth was a florid, irregular, fungous looking mass, of variable consistence, from which an alarming hemorrhage had occasionally occurred; and for the last three or four weeks there had been almost daily a discharge of blood to the extent of one or two ounces. Notwithstanding the great bulk of the tumour, the patient could move his jaw pretty freely in all directions." Otherwise the patient was in good health. On the 7th of July last, the whole diseased mass was extirpated by Mr SYME. The bone was divided, on the right side, at the socket of the second bicuspid tooth; which tooth had been removed the evening before. The section of the jaw was effected by means of a straight saw, six inches and a half long and half an inch broad, which Mr S. prefers to the chain saw recommended by Mr CUSACK, and of the cutting pliers of Mr LISTON. The tumour was exposed by two semicircular incisions, and the mucous membrane of the mouth, as well as the masseter muscle, was divided. The coronoid process could then be drawn down, the temporal muscle divided, and the articulation opened at *its fore part;* so that the bone and tumour could be removed with little subsequent dissection, and without dividing the temporal or internal maxillary arteries, which vessels would have been injured if the joint had been opened from behind. There was no necessity for securing the common carotid artery, which would probably enhance the dangers of the operation, and the only vessels demanding a ligature were some branches of the facial and temporal arteries. The patient bore the operation well, and did not lose more than seven or eight ounces of blood. The tumour weighed four and a half pounds. No bad symptoms followed; nourishment was administered by means of a curved tube in the pharynx: and by the 15th of August, says a postscript to the paper, "Penman is quite well. His mouth contracted to nearly the natural size, and his appearance is not disagreeable. He is daily improving in articulation, and can already express his wants pretty intelligibly. He has become much stronger, and is thinking of resuming his occupation."—*Ed. Med. and Surg. Jour. October*, 1828.

54. *Staphyloraphy.* Professor WARREN, of Boston, has operated successfully for a natural fissure of the soft palate. The patient was a young woman, aged sixteen, whose voice was offensive from its guttural tones, and unintelligible to those not accustomed to it. The fissure was about three quarters of an inch wide. The edges were removed by means of a sharp pointed curved bistoury, and an interrupted suture was passed with the assistance of an eyed hook, fixed in a handle, and armed with a double ligature. The fissure was closed on drawing the ligatures. The patient did not speak or even drink for twenty-four hours; for two days more, she took only a little water. On the fourth day the edges had united. On the seventh the sutures were removed. Two years afterwards, Dr W. met the patient, and found that she swallowed perfectly, spoke very well, and was daily improving.—*Amer. Journ. of Med. Sciences, Nov.* 1828.

55. *Excision of the Clavicle.*—Dr MOTT, already well known as a bold and successful operator, has again distinguished himself, by removing the clavicle of the left side in a case of osteosarcoma of this bone. The tumour was first noticed about the first of February 1828; and was hard and immoveable, without pain or discoloration. On examination by Dr MOTT, in May, a conical tumour, about four inches in diameter at its base, of an incompressible hardness, was found firmly attached to the anterior portion of the clavicle: the apex was covered with luxuriant fungous granulations, giving rise to profuse hemorrhage from time to time. Excision of the tumour and diseased bone was performed on the 17th of June by Dr M. The following are the details of this daring and important operation:

"An incision was commenced over the articulation of the clavicle with the sternum, and carried in a semicircular direction as close to the fungous projection as the sound integuments would admit of, until it terminated on the top of the shoulder, near the junction of the clavicle with the acromion process of the scapula. This incision exposed the fibres of the pectoralis major, which was divided as near the tumour as possible; in accomplishing this, as well as the first incision, arteries sprung in every direction, and required ligatures. A number of large branches of veins, under this muscle, emitted blood freely, and required to be tied.

"In conducting the incision through the pectoral muscle, towards the scapular extremity of the clavicle, care was taken to avoid the cephalic vein, as it passes between this and the deltoid muscle. A small portion of the latter muscle was detached from the clavicle, which readily allowed the vein to be drawn outward towards the shoulder.

"On attempting to pass the forefinger under the vein and deltoid to the lower edge of the clavicle, it was found impracticable, as the hard osseous part of the tumour extended beyond this point, and was completely in contact with the coracoid process of the scapula.

"Finding it impossible, from the size of the tumour and its proximity to the coracoid process, to get under the clavicle in this direction, an incision was made from the outer edge of the external jugular vein, over the tumour, to the top of the shoulder. After dividing the skin, platysma myoides, and a portion of the trapezius muscle, a sound part of the clavicle was laid bare at a point nearer the acromion than a line with the coracoid process; a steel director, very much curved, was now cautiously passed under the bone from above; which, from the firm bony state of the tumour at this part, had a considerable obliquity outwards. Great care was taken to keep the instrument in close contact with the under surface of the bone. The depth of the bone from the surface rendered it somewhat difficult to accomplish this safely: an eyed-probe, similarly curved, conveyed along the groove of the director a chain saw, which, when moved a little, showed that nothing intervened between it and the bone; the clavicle was then readily sawed through.

"The dissection was now continued along the under surface of the tumour, below the pectoralis major; here a number of very large arteries and veins required tying. The first rib being next exposed under the sternal extremity of the clavicle, the costo-clavicular or rhomboid ligament was divided, and the joint opened from the lower part. This gave considerable mobility to the diseased mass, and encouraged us to believe that its complete removal would be practicable.

"By means of a double hook and elevator, with the assistance of our strong and very broad spatulas, properly curved, we were enabled to elevate a little the sawed end of the clavicle. After loosening the parts about it, by keeping close to the tumour, we wished to discover the subclavius muscle, as it is inserted in the bone about this situation; but it could not be seen, as it was incorporated with the diseased mass. Had this muscle been found, the separation of the tumour would have been much less difficult and tedious, as by keeping above it, the subclavian vein is of course protected. The origin of this muscle,

from the cartilage of the first rib, was seen and divided, but it was almost immediately obliterated in the tumour.

"Continuing the removal of the tumour, at the upper and outer part, the omo-hyoideus was found lying under it, which we exposed from where it passes under the mastoid muscle, to near its origin from the superior costa of the scapula. In separating the tumour from the cellular and fatty structure between the omo-hyoid muscle and the subclavian vessels, a number of large arteries were divided, which bled freely, and particularly a large branch from the inferior thyroidal.

"The anterior part of the upper incision was now made from the sternal end of the clavicle, and carried over the tumour, until it met the other at the external jugular vein. After cutting through the platysma myoides, this vein was carefully separated from the surrounding parts, and two fine ligatures passed beneath it, and tied a short distance from each other; the vein was then cut between the ligatures.

"The clavicular part of the sterno-cleido-mastoideus was next divided, about three inches above the clavicle, in the direction of this incision. The deep-seated fascia of the neck being now exposed, the mastoid muscle and the diseased mass were very cautiously separated from it, until the anterior scalenus was exposed.

"The subclavian vein, from the edge of the scalenus anticus to the coracoid process, was so firmly adherent to the tumour, as to lead me at one moment to believe, that the coats of the vein were so intimately involved in the diseased structure as to render the complete removal of the morbid part utterly impracticable. By the most cautious proceeding, however, alternately with the handle and blade of the knife, we finally succeeded in detaching the tumour, without the least injury to the vein. This part of the operation was attended with peculiar danger and difficulty. At every cut either an artery or vein would spring, and deluge the parts until secured by ligatures. Besides several large veins, the external jugular was so situated in the midst of the bony mass, as to require two more ligatures in this place, near to the subclavian, and it was again divided in the interspace. Near the sternal end of the clavicle, a large artery and vein required tying; they were considered as branches of the inferior thyroidal artery and vein.

"From having cut through the clavicular portion of the mastoideus muscle, obliquely upwards and outwards a little above the tumour, we were enabled, by turning this down, and keeping close to the fascia profunda, to detach the tumour from over the situation of the thoracic duct and junction of the internal jugular and left subclavian, without the least injury to these important parts.

"To reach the lower part of the tumour as it extended upon the thorax, it was necessary to separate the pectoralis major in a line with the fourth rib, and to make a transverse incision two inches in length through the integuments and muscles at about its centre. The incision upon the neck extended from the sterno-clavicular junction, in a semicircular direction, to within an inch of the thyroid cartilage and base of the lower jaw, and two inches from the lobe of the ear, and terminated near the junction of the clavicle and scapula.

"The fungous and bleeding character of the apex of the tumour implied that it was freely supplied with vessels. The discharge of blood was so free at every step of the operation, that about forty ligatures were applied. It was estimated that the patient lost from sixteen to twenty ounces of blood."

The patient had no unpleasant symptoms, but gradually improved. By the middle of August, he left New York on an excursion of pleasure, and returned, in September, in better health than he had ever enjoyed.

Dr Mott took the precaution of securing the external jugular vein, *to prevent the admission of air into the circulation;* being influenced by the case of Baron Dupuytren's, in which sudden death resulted from the ingress of air to the blood in the division of a vein in the neck, and also by his own experience. On attempting to extirpate a diseased parotid gland, "the facial vein was opened near the base of the lower jaw. At the instant this vessel was

opened, the attention of all present was arrested by the gurgling noise of air passing into some small opening. The breathing of the patient immediately became difficult and laborious, the heart beat violently and irregularly, the features were distorted, and convulsions of the whole body soon followed, to so great an extent as to make it impossible to keep him on the table. He lay upon the floor in this condition for near half an hour, as all supposed in articulo mortis. As the convulsions gradually left him, his mouth was permanently distorted, and complete hemiplegia was found to have ensued. An hour and more elapsed before he could articulate, and it was nearly a whole day before he could recover the use of his arm and leg."

By means of an apparatus contrived by Mr JAMES KENT to supply the want of a clavicle, the subject of the operation could have "his shoulder in its proper position, at the same time that the full motion of the arm was preserved." New York, Sept. 24, 1828.—*Amer. Journ. of Med. Sciences, Nov.* 1828.

56. *Supplement to Dr* LA ROCHE'S *Account of* CIVIALE'S *and* AMUSAT'S *Operations.*—"September 20th, 1828. I attended this morning at a second extraction, by M. AMUSAT, of stone over the pubis. The patient was a man about fifty years of age, of sound constitution but nervous temperament. He had long suffered; but his sufferings were thought to arise from stricture in the urethra. His prostate is small, and there is a little catarrh of the bladder. The operation was not long; but the stone being very large and situated near the neck of the bladder, and as usual transversely, some difficulty was experienced in the extraction, and the pain was considerable.

"*Urethrotome.*—M. AMUSAT has been very fortunate in the treatment of strictures of the urethra. Disapproving in general the use of caustic, which Messrs LALLEMAND and SEGALAS so much commend, he almost universally employs an instrument to divide the obstruction. His instrument, which operates on the same principle with Dr PHYSICK'S, differs from it essentially in its construction. It consists of a hollow tube, the end of which has the form of a long and narrow olive. The olive like extremity has a number of small blades placed longitudinally on the side. A small bougie is introduced into the stricture, and when this is accomplished, the cutting instrument is passed over it to the stricture and passed through. It is plain that as the bougie is the conductor of the lancets, these can not go out of the true direction, and cut more on one side than another of the strictured portion, or occasion a false passage. In order to avoid its injuring the healthy portion of the canal as it is pushed down, it is well coated with cerate, and rotated fast until it reaches the stricture. I did not see the operation myself; but Dr BROWN, who saw it, was much gratified with it."

[This communication is from our colleague, Dr LA ROCHE, in Paris. Our readers, by recurring to the fifth volume of this Journal, p. 341, will meet with a plate and description of a urethrotome prepared by Dr CHEW, and which seems decidedly superior to that of M. AMUSAT; 1. In having a conductor through the handle of the stilet; and 2. In having the cutting portion of the instrument covered by a canula until it reaches the strictured spot.—ED.]

57. *Recto-Vesical Operation.*—This operation has lately been performed by a Dr DEGIORGI, a surgeon at Imola, in Italy. The patient recovered, but with a permanent fistula between the bladder and rectum, allowing of the reciprocal passage of the urine and fæces into the bladder and rectum. He found also that, during coitus, the semen flowed through the fistula, instead of passing in the course of the urethra. If such were the necessary consequences of the recto-vesical operation, it should be always abandoned; but, in the present case, a more fortunate termination was not to be expected; for great difficulty existed in passing the sound into the urethra, which required at least six weeks to overcome; and M. DEGIORGI made two incisions with a bistoury, so as to divide, first, the recto-vesical septum, and then the membranous part of the urethra, the middle of the prostate gland, and the neck, and part of the bas-fond of the

bladder. In this way, the cavities of the bladder and rectum were exposed, and the important urinary and spermatic tubes at the neck of the bladder necessarily divided. From such an example no one ought to condemn an operation which, when scientifically performed, has much to recommend it.—*Vide Annali Univers. de Med. June* 1828, *and Archiv. Gén. Sep.* 1828.

58. *Imperfect Union of a Fractured Femur cured by an Operation.*—In May 1826, Huppenhauer, aged twenty years, fractured his left thigh about the middle, and was treated without splints at the hospital of Zurich. In eight weeks, consolidation occurred, but so badly, that the limb was shortened one foot, and the patient walked with great pain. The two fragments were found by Professor RIECKE, of Tubingen, under whose care the patient fell, so displaced that the extremity of the superior fragment was felt immediately under the skin, while that of the inferior fragment was united to the superior fragment six or eight inches above the fracture, by a very deformed callus. Professor RIECKE, detecting a slight motion between the two fragments, determined on the following operation. An incision was made through the skin from the great trochanter quite to the external condyle of the femur. After dividing the muscles, and exposing the bone, the callus was found very firm. By means of a saw and chisel, the callus was divided, and the end of the superior fragment was removed. The limb was kept extended by the apparatus of DEGONDI. Suppuration was profuse, and exfoliation of numerous necrosed portions of bone followed, so that eight weeks elapsed before the patient was out of danger. As the fragments appeared to be consolidated, and the knee was becoming stiff, Mr C. BELL's inclined plane was resorted to; but the wound again opened, and gave issue to a large fragment of necrosed bone. The fracture being again moveable, the former dressings were removed, and continued for three months longer. It was only at the expiration of eight months after the operation that the fracture was fully consolidated, and the patient departed from the hospital cured.—*Extracted from a work by* J. F. ŒSTERLEN, *on artificial rupture of a callus in cases of deformity from fracture, &c. Tubingen,* 1827.—*Archiv. Géneral. Sept.* 1828.

59. *Cure of Caries of the Upper and Right Maxillary Bone, and a Regeneration of the Teeth.*—GRAEFE & WALTHER's *Jour. Tome X.*—A boy, of feeble constitution, eleven years of age, suffered from pain and swelling of the right upper maxillary bone, soon after the disappearance of a tetter from the skin. The teeth became loose; pus was evacuated through openings in the gums;—a probe could be passed into the antrum. The right nasal fossa was obstructed, and the eye of the same side was pushed upwards so as to cause strabismus and double vision. The extraction of the cuspidatus, and of the first molar tooth, gave issue to a large quantity of pus. A tumour, at the angle of the eye, was also opened—the os unguis, and part of the nasal process exfoliated: the eye soon recovered its natural position, and the anomalies in vision disappeared. Fragments of bones were passed through the ulcers of the gums; the teeth fell out; seventy-two fragments of bone, the whole weighing ʒii. and gr. vi., were expelled; all the alveolar processes of the maxillary bone, the greater portion of its exterior and anterior surface, the floor of the nostril, the greater part of the palatine and maxillary apophyses, and the os unguis were destroyed. The disease advanced for four months: then the ulcers commenced healing, the complexion became fresh and florid, and the face resumed its natural form. During eight months the young man appeared well: when he again suffered pain at the posterior part of the alveolar border, and swelling of the gums. An incision was made, no pus was perceived, the pain ceased, and after some days, there were seen the crowns of three molar teeth; and two months afterwards appeared another molar tooth. The other teeth have not reappeared; but those which were regenerated, attained their usual size, and were in good condition three years after their appearance.—*Bulletin des Sci. Méd. July,* 1828.

60. *Perineal Hernia*, by Dr JACOBSON, of Kœnigsburgh—GRAEFE & WALTHER's Journal.—"The number of perineal hernias, hitherto described, amount to eighteen. This affection occurs as frequently among males as females; among these last, the hernia was formed three times by the bladder, and six times by the intestines; among men, six cases were intestinal and two vesical: one case was doubtful. Of this number, three cases have been observed by Dr JACOBSON. Of the two cases the author reports, one was a perineal cystocele, the other an enterocele. It results, 1. That a perineal hernia escapes in the female through the same parts as in the male, viz. in the space comprised between the anus, the coccyx and the sciatic tuberosity; 2. That SCARPA erred in supposing that the female never suffered from this kind of hernia, but was liable to a hernia of the genital organs. 3. That SCHREGER was nearer the truth in saying that, among females, a perineal hernia is always accompanied with a hernia of the vagina, and that the inclination backward of the pelvis predisposes to this complaint in a particular manner."—*Bulletin des Sci. Med. June* 1828.

61. *Hernia Cerebri.*—As we believe a correct pathology of hernia cerebri, and of course, scientific indications for the practitioner's guidance, are still wanting, we shall record another case of this affection, evincing that the complaint appeared some days after the accident, and was attended with effusion of fluids within the cavity of the cranium.

W. Causton, aged nine years, suffered a fracture of the right temporal and parietal bones with depression. The patient remained sensible, pulse frequent and feeble, but was able to walk to the hospital on the 15th of August, soon after the accident. The depressed bones were elevated, the dura mater and brain were wounded, and small portions of the cerebral mass were lost. The integuments were drawn over the wound and secured by adhesive straps. He was bled. On the 16th, general symptoms good, pulse rather full, had pain in the head, and was bled twice in the course of the day; remained sensible. On the 17th, had no pain; was sensible; no fever; pulse frequent and sharp. V.S. ℥viii. On the 19th, no pain and no fever; pulse 100, and sharp. Brain found protruding, and raised above the level of scalp; was of a greyish colour, very soft and with a slight serous discharge. No pain or uneasiness excited by touching the brain. Slight pressure was made by compress and adhesive plaster. August 20—countenance much altered, anxious, restless, skin hot, pulse 120, and sharp. A portion of brain, disorganized, about the size of a turkey's egg, protruded on removing the dressings; discharge was turbid and bloody. On slicing off a portion of the tumour, some of the cerebral arteries bled; one required a ligature. Restlessness continued; a further protrusion occurred, while patient was turning in bed. The patient immediately became comatose; breathing laborious. Venesection afforded no relief. The protrusion of brain gradually increased; it was externally soft, emitted a peculiar odour, and some bleeding took place from numerous small vessels on its surface. 21st. Coma continues; symptoms worse. The protrusion increased, and hung over the cheek, much exceeding the size of a large goose's egg. In the afternoon he died.

Dissection. The prominent tumour of the brain was considerably sunk and lessened; on removing the cranium, an ounce of turbid serum escaped through the opening. The edges of the lacerated dura mater, through which the brain had protruded, were in a dark, sloughy state. On exposing the hemispheres, a quantity of pus was found beneath the arachnoid, covering the right hemisphere. Nearly the whole of the right hemisphere of the cerebrum was in a soft disorganized state, extending from the right lateral ventricle, across the fornix, into that of the left side. The ventricles contained a small quantity of turbid straw coloured fluid. On making a section of the protruded brain and corresponding hemisphere, it was found extremely soft and pulpy, as if broken down and mixed with serum, and it presented a light greyish colour. The part of the brain surrounding the protrusion was very vascular, and on slicing it, presented

numerous bloody points. There was turbid serous, and purulent effusion beneath the arachnoid of the base of the cerebrum. The medullary substance of the left hemisphere was remarkably white—its arachnoid presented its natural appearance.—*Lancet.—Lond. Med. & Surg. Jour.*

VII. MIDWIFERY.

62. *Uterine Hemorrhage.*—M. JEMIMA, of Turin, Italy, reports several cases in which the practice of M. MOJON, of injecting the umbilical cord in hemorrhagies after the delivery of the child, has been successful. One was a female, aged 30 years, delivered on the 24th of October, 1827, at the full period, after a natural labour. The placenta was retained; hemorrhage supervened, and was uninfluenced by frictions over the hypogastric and gentle traction of the cord. The hand could not be introduced into the uterus, and, as the bleeding was alarming, M. JEMIMA determined to inject the placenta. After emptying the umbilical vein of the blood it contained, M. JEMIMA injected fifteen ounces of cold water, acidulated with a little vinegar, into this vessel. In less than three minutes, the placenta was detached; and its expulsion was preceded by violent pain in the loins and abdomen, accompanied by anxiety, convulsive motions, &c. and afterwards by fainting.—*Medical Repertory of Turin, August* 1828.—*Rev. Med. for Sept.*

63. *Of Labour.*—M. BAUDELOCQUE sums up the discoveries in the art of accelerating parturition as follows: 1. To apply galvanism to the fœtus during the period of tedious labour, in order to ascertain positively, whether it be dead or alive. 2. In lieu of embryotomy or dissection of the fœtus in the womb, to so compress it, and reduce the volume of the head and body of the fœtus by a particular kind of forceps, that these parts shall be readily made to traverse the narrowest or most deformed strait.

64. *Uterine Polypus.*—A female, at the age of forty-eight years, had deranged menstruation, and felt at the same time the usual symptoms of pregnancy. In the fiftieth year of her age, she was seized one day with a violent colic, and the midwife was sent for. The latter, after making a vaginal examination, thought she felt the head of a child; an opinion against the truth of which the patient, who had been a widow for two years, very loudly protested. The pains however went on, and a large tumour was expelled; which turned out to be a polypus, weighing about four pounds. Tractions of some force, made by the medical attendant, produced such a hemorrhage that in less than a minute the patient ceased to exhibit any signs of life. A ligature was afterwards passed round the polypus, and then followed its separation and the entire recovery of the patient.

65. *Natural Delivery, after the Fruitless Use of the Forceps, and Vain Efforts to turn the Child.*—The woman had had a child before without any difficulty. On this occasion she had been in labour three days; the use of vapour baths, and the precipitate discharge of the amnios having caused an entire cessation of the pains. The attempts to draw out the child by the forceps, and afterwards to turn it, by two skilful surgeons, caused an inflammatory state of the uterus, and a rupture of its neck, together with tumefaction of the external parts. A bleeding and emulsion, to which were added nitre and hyoscyamus, and emollient fomentations on the genital organs and lower belly, together with the employment of some means of bringing on labour pains, finally brought about a natural delivery. The child, a male, was very robust; it was still-born, and had the bones of the cranium fractured in several places.—*Journal des Progrès, from a German Journal.*

66. *Cancer of the Uterus cured by Injections of Hydrocyanic Acid.*—A case of this nature was reported by Dr BRUNI to the Medico-Physical Society of Florence, at one of its sittings in March. The injections were made four times a day. The acid was prepared agreeably to the process of SCHEELE, and four denarii were mixed with four pints of barley water. Cicuta and aloes were administered internally. During the first few days, the injections caused sharp cutting pains of the severest kind; but, the patient having passed by the vulva fragments of a membranous and fleshy substance, her pains became from that time less severe; she regained her strength and flesh to such a degree, that in six months there was not a vestige of disease of the uterus. The menses returned at regular intervals.

67. *Case of Extra Uterine Fetation.*—A woman, treated, in the Hospital of St Antoine, for two distinct kinds of eruption—syphilitic and erysipelatous, died after a lapse of two months. A post mortem examination showed a small tumour in the mesentery, near the ileon, formed by a fœtus bent on itself so as to be only two inches long. A portion of the small intestine was adherent to the fœtus; which was covered, however, by very thin transparent membrane. Through this could be seen very distinctly the head, a fontanelle, a scapula, a humerus, and a small prolongation seemingly the rudiment of a forearm, the ribs of one side, one of the bones of the ileum, and one of the ossa femorum. This fœtus was in no way adherent to the genito-urinary organs. Its appearance and position were seen by MM. RAYER, BEAUCHENE, KAPELER, and BRICHETEAU; who were present when M. GARDE made the examination.

The uterus did not exhibit in its cavity any trace of a membrana decidua. It contained about a spoonful of bloody and purulent liquid; its neck was a little dilated.

68. *Retroversion of the Uterus.*—Two cases of this disease, successfully treated by Dr WEIR, are recorded by him in the Glasgow Journal. The first was of a married woman, aged 48, the mother of ten children, the youngest five years old. She had been complaining, for about a fortnight, of occasional severe pains in the region of the bladder and uterus, stretching down the thighs, and coming on "in showers," similar to labour pains, but often more severe. She could only pass urine in drops; and had a constant desire to go to stool, with much straining and distressing tenesmus, but very scanty evacuations. The distended urinary bladder was distinctly felt above the pubis. She had not menstruated for three months.

The treatment consisted in venesection, the use of purgative enemata, fomentations over the abdomen, and the regular use of the catheter. The warm bath, and leeches to the vulva, had the effect of relieving the severe tenesmus and distressing bearing down efforts. In this case there was no pregnancy; but Dr W. believes there was enlargement of the womb, the patient being about the change of life.

The second was a most alarming case. It was of a pregnant female aged thirty-nine: there was stillicidium of urine, and considerable œdema of the legs, thighs, and lower part of the belly. On the 2d of November, there was considerable difficulty in introducing the catheter, although two pounds of urine were brought away by this means. On the 3d and 4th, catheterism became more and more difficult, less urine could be got away, and the abdomen increased in size almost every hour. On the 6th, the bladder was felt considerably above the umbilicus, and the fundus of the womb was getting lower in the pelvis. The catheter could still be introduced, and, on this day, two pounds of urine came away but with little diminution in the size of the abdomen.

The patient would not consent to having the bladder punctured, as was proposed. Things continued getting worse until the 9th: the uterus appeared to be turned almost upside down; it lay impacted between the rectum and bladder; and it was with much difficulty that any examination could be made, owing to the strong action of the abdominal muscles forcing the contents of the pelvis

downwards, and preventing the introduction of the fingers into the vagina. Labour pains were now active, but the expulsion of the uterine contents was impossible from the malposition of the organ. One gentleman in consultation proposed that the fundus of the uterus should be punctured, which would allow the liquor amnii to escape and reduce very materially the size of the tumour. It was however agreed to make a last attempt to reach the os uteri. Accordingly, after much difficulty, and a great degree of force, and in opposition to the strong and powerful exertions of the patient, which all tended to prevent its admission, Dr Weir succeeded in getting his hand into the vagina, forced up his finger above the pubes, and reached the mouth of the womb. An assistant at the same time got his hand into the rectum, and they had thus the perfect command of the patient. By steadily pushing upwards the fundus, and cautiously pulling the neck and mouth of the womb downwards, the tumour was gradually raised above the promontory of the sacrum, and the uterus reduced to its proper position. A considerable quantity of urine had been evacuated during the operation and previous examination. The labour continued; and now, after the uterus was freed from its firmly impacted state, the pains assisted to bring it still more perfectly into its natural situation. Subsequently, the labour pains having ceased, and the os uteri being well dilated, the fœtus was extracted. It was found mutilated: it was apparently about the fourth month and somewhat putrid. Severe abdominal inflammation supervened, and was checked by vigorous depletion. The patient entirely recovered.

VIII. CHEMISTRY AND PHARMACY.

69. *Artificial Ultramarine.*—Mr Gmelin's process for obtaining this substance is as follows:—Procure the hydrates of silica and alumina; the first by fusing together well pulverized quartz with four times its weight of carbonate of potassa, dissolving the fused mass in water, and precipitating by muriatic acid; the second by precipitating a solution of pure alum by ammonia. Ascertain the quantity of dry earth in the moist precipitates, by exposing them to a red heat. Mr Gmelin's hydrate of silica contained 56 per cent of dry earth, and his hydrate of alumina, 3.24 per cent.

Next dissolve the hydrate of silica to saturation in a solution of caustic soda, by the aid of heat; and add such a quantity of hydrate of alumina, as that the dry earth contained in it, may be to silica, also considered dry, as 70 to 72. The whole is then evaporated, stirring constantly until it becomes a moist powder.

This combination of silica, alumina, and soda, is the basis of the ultramarine. It requires to be coloured by the sulphuret of sodium in the following manner. Heat gradually in a Hessian crucible, provided with an accurately fitting cover, a mixture of two parts of sulphur, and one part of anhydrous carbonate of soda, until at a medium red heat, the mass becomes perfectly fused. Project the basis of the colour, in very small quantities at a time, into the fused mass. As soon as the effervescence caused by the emission of aqueous vapours has ceased, add a new portion. After the crucible has been kept for an hour at a moderate red heat, it is allowed to cool. It contains the ultramarine, mixed with an excess of sulphuret of sodium. The colour is freed from the latter by water, and from any excess of sulphur, by exposure to a moderate heat. In case all parts of the ultramarine are not equally coloured, the finest portions may be separated by reducing the whole to a very fine powder, and washing with water.—*Jour. de Chimie Medicale, August* 1828.

[Mr Gmelin's account of his process is defective, in as much as he does not state, in what relative proportions, the basis of the colour, and the ingredients which produce the sulphuret of sodium, are to be used. Mr Guimet also manufactures artificial ultramarine, but keeps his process secret. On the 30th of

June last, GAY-LUSSAC exhibited to the French Royal Institute, a specimen of Mr GUIMET's artificial ultramarine, of very good quality, and which can be afforded at five dollars per ounce, about one-third of the price of the natural colour. It is already employed by the first painters in France, and is prepared in sufficient quantities to meet all demands. The artificial colour may be obtained at the store of Messrs Smith and Hodgson, Jun. Chemists of this city.—ED.]

70. *Cyanic Acid obtained in a separate state.*—On the 1st of September last, Mr SERULLAS communicated to the French Royal Academy of Sciences, a process by which the cyanic acid, not heretofore isolated, may be obtained in a separate state. The process is as follows:

Dissolve the *perchloride* of cyanogen in water, evaporate to dryness, and continue the heat so long as muriatic acid vapours are given off. The water is decomposed, and, by its elements, uniting to the chlorine and cyanogen respectively, gives rise to muriatic acid and cyanic acid. The former is driven off by the heat, and the latter left behind.—*Jour. de Chimie Médicale, Oct.* 1828.

[In the above process, it is easy to perceive that *protochloride* of cyanogen is meant; for the *perchloride* would give rise to the decomposition of 2 atoms of water, and set free 2 atoms of oxygen, while 1 atom only is required to form the cyanic acid.—ED.]

71. *Urea, a Cyanate of Ammonia.*—Dr WÖHLER has ascertained that the cyanate of ammonia is perfectly identical with purified urea. Having formed this cyanate and studied its properties, he found them to coincide exactly with those of this animal substance. The best mode of obtaining this cyanate, is by double decomposition between the cyanate of mercury and the muriate of ammonia, or by acting on the cyanate of lead by liquid ammonia.

Dr WÖHLER having satisfied himself of the identity in properties of the artificial with the natural urea, justly remarks, that, if the identity be perfect, the substance, obtained in either way, would prove identical in composition. Bringing the question to this test, he obtained the most conclusive evidence, that the identity, deduced from the properties of the two substances, was not merely apparent, but real. Thus if we consider that the cyanate of ammonia, following the analogy of the other hydrated ammoniacal salts, contains one atom of water, its ultimate composition will be

Cyanic Acid	2 atoms	Carbon	12
	1	Nitrogen	14
	1	Oxygen	8
Ammonia	1	Nitrogen	14
	3	Hydrogen	3
Water	1	Oxygen	8
	1	Hydrogen	1
			60

equivalent to

2 atoms	Carbon	12
2	Nitrogen	28
2	Oxygen	16
4	Hydrogen	4
		60

Now according to the best analysis of urea, that of Dr PROUT, this substance consists of

1 atom	Carbon . . .	6
1	Nitrogen . . .	14
1	Oxygen . . .	8
2	Hydrogen . . .	2
		30

So that the proportions are identical in the two substances; and if we follow Dr PROUT in expressing the atoms in urea in the lowest terms, then we may say that 2 atoms of urea correspond precisely to 1 atom of the hydrated cyanate of ammonia.

In preparing this article, we have availed ourselves of the notice contained in the "Journal de Chimie Médicale" for August last, adopting, however, our own judgment as to the most distinct manner of presenting the facts.

72. *Action of Deutobromide of Mercury on the Animal Economy. By Dr* BARTHEZ.—This bromide is a white crystallizable substance, of an acrid and caustic taste, and soluble in water, alcohol, and ether. Exposed to heat, it sublimes in the form of a white vapour, which excites cough.

Experiment 1. A grain of the deutobromide of mercury, dissolved in water, was injected into the jugular vein of a middle sized dog. The animal merely experienced dyspnœa and uneasiness for a few minutes.

Experiment 2. Two grains of the deutobromide were injected into the jugular vein of a large dog. The animal experienced neither pain nor dyspnœa. Salivation did not occur, and there were no alvine dejections. The movements of the heart were merely a little accelerated. The animal died the next day. Upon dissection the lungs were found livid and ecchymosed, but without being gorged with blood. The heart was contracted and deeply coloured in its cavities. The stomach was healthy.

Experiment 3. Four grains of the deutobromide were injected into a vein of a middle sized dog. The pulse became accelerated, and the respiration difficult. The animal stood motionless, with its head depressed, and allowed mucosities to flow from the mouth. Death occurred in four hours. The lungs were livid, gorged with blood, and studded with innumerable black spots. The blood was not coagulated. The heart and stomach were natural.

Experiment 4. Six grains of the deutobromide were inserted into the cellular tissue of the neck of a middle sized dog. In an hour the animal appeared to be dejected, and lay on his belly. The wound had become grayish. In six hours, viscous and yellowish stools. The next day considerable dejection, and refusal of food. Third day, greater dejection, and bloody stools, with tenesmus and ardent thirst. Death on the sixth day. The lungs were red and crepitating. The mucous membrane of the stomach was universally inflamed, as were also the intestines.

Experiment 5. Six grains of the deutobromide were introduced into the stomach of a dog of middle size. In the course of a minute, vomitive efforts were excited, which continued for two hours. The matter vomited was greenish. The next day the animal was pretty well.

Experiment 6. Two grains of the deutobromide were introduced into the stomach of a large dog, through an opening made in the œsophagus. At the end of a minute, efforts at vomiting; plaintive cries; total prostration; mouth frothy; respiration difficult. Death in thirty hours. Rigidity considerable; stomach contracted and much softened; its mucous coat in considerable folds. Towards the pylorus, thirty black spots, appearing to be formed of coagulated venous blood. These spots were gangrenous eschars, and each covered a deep ulcer. The stomach contained three ounces of a greenish liquid. The duodenum was stained yellow by the bile.

Dr BARTHEZ concludes from his experiments:

1. That the deutobromide of mercury may be classed as a corrosive poison,

having the greatest analogy to the deutochloride of the same metal (corrosive sublimate).

2. That, injected into the cellular membrane, it passes into the current of the circulation.

3. That it produces death, by acting principally upon the intestinal canal.

4. That its action is very energetic when the stomach is empty; but when this viscus is filled with aliments, it is mostly rejected by vomiting.

Dr B. thinks that the poisonous effects of the deutobromide of mercury are to be counteracted by the same antidote as those of the deutochloride; namely, by albumen.—*Journal de Chimie Médicale, Oct.* 1828.

73. *Comparison of Venous Blood with that contained in the Capillaries.*—In the Journal of Medical Chemistry for October, 1828, Dr Emanuel Pallas gives the results of some chemical experiments on this subject. He drew from a patient three equal measures of blood; one portion by venesection, a second by leeches, and a third by cups. Their relative weights were—venous blood, 19.950; blood by the leeches, 20.450; and the blood by the cups, 20.400.

The venous blood had a dark black colour, and, in a few hours after it was drawn, separated into serum and crassamentum. The blood obtained by the leeches was more viscid, exhibited a bright red colour, and had the odour of a mixture of bile and urine. The crassamentum was larger than that of the venous blood. The blood from the capillaries, obtained by the cups, had a dark red colour, was viscid, and emitted a very decided bilious odour.

The serum of the three specimens of blood was clear and transparent; that derived from the blood drawn by the leeches was red, and deeper in colour.

Boiled with water to coagulate the albumen—

The solid dried portion of the venous blood weighed . .	2.550
,, ,, of the blood by the leeches . .	3.100
,, ,, of the blood by the cups . . .	3.000

Two additional sets of experiments, of a similar character, were made by Dr Pallas, with the blood of two other individuals, and with similar results. If we admit them as accurate, and we do not perceive how he could be mistaken, we must adopt his deductions, that blood drawn by leeches contains more solid matter than the blood drawn from a vein of the same individual. The blood drawn by cups, and that which flows after the falling off of the leech, are very much alike; but not so rich in solid parts as that obtained by the animal in suction.

The author concludes by remarking, that the facts which he has observed serve to demonstrate, that the blood which circulates in the capillary vessels is chemically different from the venous blood of the same subject; and that this difference may serve to explain why bleeding from the capillary vessels by means of cups and leeches is applicable to so many pathological states in which general bleeding would be attended with no benefit.

74. *Chemical Changes in the Fluids induced by Abstinence.*—The following results are taken from a very instructive experimental memoir on the effects of entire abstinence from solids and liquids, by Dr Collard de Martigny, contained in Magendie's Journal of Physiology for April and July 1828. For other facts and observations derived from the same source, the reader is referred to our physiological and therapeutical heads.

Changes in the Blood.—Of three rabbits of the same size and litter, one was killed by the section of the crural artery; and 119 grains of its blood being analysed gave the following results.

Albumen and colouring matter . .	10.2 grains
Fibrin	2.5
Water and salts	106.3

The same quantity of blood from the second rabbit, after fasting five days, gave of

Albumen and colouring matter . .	12.6
Fibrin	1.9
Water and salts	104.5

The same quantity from the third rabbit, after an abstinence of eleven days, gave of

Albumen and colouring matter	13.79 grains
Fibrin	.97
Water and Salts	104.24

These experiments seem to prove, according to the author, 1. That, as a consequence of abstinence, the proportion of the crassamentum to the serum becomes more considerable. 2. That the quantity of the albumen augments proportionably. And 3. That of the fibrin is much diminished.

To meet the objection, that, in these experiments, the individuality of the animals might explain the differences in the blood, Dr COLLARD made similar ones on two dogs, the blood of each being analysed before and after fasting, and with similar results.

Changes in the Lymph.—The aspect and composition of the lymph undergoes notable variations as a consequence of complete abstinence. In its natural state, when examined in its vessels, and several hours after the completion of chylification, it is colourless or yellowish. Its smell is weak, and slightly spermatic; and its specific gravity greater than that of water. If chylification has been completed for a longer time, it is rose coloured, opaline, viscid, and of a strong spermatic odour.

In the first case mentioned, it is difficult to coagulate. In the end, however, it separates imperfectly in two parts; namely, a soft gelatinous coagulum, retaining a portion of serum, and a small quantity of viscid, limpid serosity, which surrounds the coagulum. This latter assumes a roseate hue by contact with the atmosphere. The serosity is completely coagulated by heat. Sixty-two grains of the coagulum contained scarcely a particle of fibrin; the rest was albumen, united to a small portion of fatty matter, separable by boiling alcohol.

In the second case, the lymph coagulates immediately. The coagulum is much larger and firmer, and becomes of a deeper red colour by exposure to the air. It exhibits numerous arborisations in the form of fibrillæ, and contains nearly all the serosity in its cells. When allowed to drain, a portion of lymph separates, which also coagulates, forming a second coagulum, less firm than the first. It is exclusively albuminous, and does not present the appearance of interlacing roseate fibres. The *very small quantity* of serosity which surrounds the first coagulum, does not coagulate.

Dr COLLARD ascertained by analysis, that 100 grains of lymph obtained from a dog, after fasting thirty-two hours, consisted of

Albumen, and colouring and fatty matters	5.7 grains
Fibrin	.3
Water and salts	94.

During the first twelve days of abstinence, or thereabouts, the lymph, while it augments in quantity, becomes more consistent, viscid, and opaline, and its spermatic odour stronger. At the same time the reddish tinge becomes deeper.

The lymph of a dog, analysed by Mr CHEVREUL within the period of twelve days of abstinence, gave in the 100 parts, of

Albumen	6.1
Fibrin	.42
Water and salts	93.48

The lymph of a dog, analysed by the author of the paper, after nine days' fasting, gave in the 100 parts, of

Albumen, and colouring and fatty matters	6.28
Fibrin	.58
Water and salts	93.14

The lymph of another dog, after twenty-one days of abstinence, contained in the 100 parts, of

Albumen and colouring and fatty matters	6.
Fibrin	.32
Water and salts	93.68

Towards the last days of the life of the animal, the contents of the thoracic duct are yellowish-white, transparent, serous, but slightly odorous, and

difficult to coagulate. The coagulum is homogeneous, by no means firm, of a yellow colour, inclining to pale rose, and entirely devoid of any arborescent appearance.

The more interesting deductions of Dr COLLARD, regarding the lymph, are contained in the following propositions:—

1. Where an animal is killed by complete abstinence, the quantity of the lymph, during about the first third of the time, is very considerable, and within this period, its amount increases, the longer the time which has elapsed since the commencement of the abstinence. During the last two-thirds of the time, the quantity of the lymph gradually diminishes.

2. During the period of its augmentation, the lymph becomes richer in colouring matter, coagulum, and fibrin; but during the period of its decrease, it becomes less and less coagulable, coloured, and fibrinous, as death approaches.

75. *Pure Strychnia not reddened by Nitric Acid.*—In the Journ. Général de Médecine for Aug. 1828, M. CAVENTOU has inserted a note, in correction of a mistake, contained in the memoir of Messrs ORFILA and LE SUEUR on the detection of poisons in bodies a long time after death. The latter gentlemen stated in their memoir that they verified the presence of acetate of strychnia, by a red colour developed by nitric acid.

M. CAVENTOU remarks, that upon the discovery of strychnia in 1818 by himself and M. PELLETIER, they had stated that it is reddened by nitric acid. At the same time they observed, that the alkali extracted from the nux vomica presented this character in a greater degree, than when obtained from St Ignatius's bean. They suspected the cause of this difference to be the presence of a greater or less quantity of brucia; but were unable to verify their suspicions until they undertook their chemical researches on the *upas anthiar* and *tieuté*, the celebrated poisons of Java; when they ascertained positively, that pure strychnia is not reddened by nitric acid, and that it presents this character, only when it contains a little brucia, (which is associated with it in the nux vomica, and even in the bean,) or a yellow colouring matter, found only in the upas tieuté.

76. *Dr* STAPLES's *Process for Morphia.*—On the 26th of July last, M. CHEVALLIER communicated to the Section of Pharmacy of the French Academy of Medicine, Dr STAPLES's process for morphia, published in the April number of this Journal for the present year. An analogous process has been addressed by M. GUILLERMOND, of Lyons, to the society of Pharmacy.

M. CHEVALLIER states, that he has successfully repeated Dr STAPLES's process, and that he obtained morphia nearly pure. Wishing to determine the relative product of this process, he made two essays on a pound of opium. The first operation gave, for the French pound of 7561 troy grains, 561.45 troy grains of morphia, and the second operation, 576.7 troy grains from the same quantity of opium. Dr STAPLES obtained from the avoirdupois pound of 7000 troy grains, 360 troy grains of morphia, equal to 388.8 troy grains for the French pound. The fact of the larger amount of the vegetable alkali obtained by M. CHEVALLIER by Dr STAPLES's process, than by Dr STAPLES himself, may be explained by supposing that the former operated on a finer specimen of opium. Dr STAPLES stated that his opium was of medium quality.

At the same meeting, M. BLONDEAU read a note on the fermentation of opium, as applied to the extraction of the morphia. It results from his experiments, that when fermentation has decomposed the other elements of the drug, nearly the whole of the morphia may be obtained. By pursuing this plan, M. B. has procured from the French pound of opium, as many as fourteen "gros," equal to 827.4 grains Troy. This product is so very extraordinary, that we fear M. BLONDEAU has fallen into some error. We hope, hereafter, to have the pleasure of laying the details of his process before our readers.

Before closing this article, we may mention that Dr STAPLES is pursuing his researches, and has made some improvements on his process which we published. We hope in a future [illegible] nal, to give his additional experiments and results.

Miscellaneous Articles.

[The following communication, from our friends, Drs SKERRETT and BREWSTER, is inserted by us with great pleasure. Of the justice of their views we hope our readers will be convinced. Much has recently been said, and many facts have come to light, tending to make it desirable to bestow minute attention on the appearances of the vaccine disease. In the hands of Drs S. and B. we are convinced that this duty will be well performed; and it is to be hoped that the division of the city into two districts, and the appointment of two individuals to the labour, may greatly facilitate its execution.—ED.]

"*New Vaccine Regulation in Philadelphia.*

"The undersigned, having been appointed Vaccinating Physicians, under a new ordinance of the Select and Common Councils, respectfully announce to the Medical public, that, in addition to their other duties, they will keep a constant supply of fresh, genuine Vaccine Virus for the accommodation of the profession. By a provision in the aforesaid ordinance, they are obliged to furnish the city practitioners gratuitously, which they will at all times do with great pleasure. But owing to the great demand for virus from all parts of the country, to which from their public position they will necessarily be subjected, they have determined, after free consultation with their medical friends, to require a small remuneration for the extra trouble which they will incur by this arrangement. Applications, therefore, (post paid) from any part of the United States, addressed to either of the undersigned, and enclosing three dollars, will meet with prompt attention.

DAVID C. SKERRETT, M.D.
No. 153, *S. Tenth Street.*
WM. CARLL BREWSTER, M.D.
No. 150, *S. Fifth Street.*

"We cheerfully acquiesce in the above plan, and have no hesitation in stating our belief that the duties it proposes will be faithfully executed by the Vaccinating Physicians.

PHILIP S. PHYSICK, M.D.	THOMAS T. HEWSON, M.D.
N. CHAPMAN, M.D.	W. E. HORNER, M.D.
WILLIAM GIBSON, M.D.	HENRY NEILL, M.D.
THOMAS C. JAMES, M.D.	J. K. MITCHELL, M.D.
ISAAC HAYS, M.D.	THOMAS HARRIS, M.D.

"Editors of other Medical Journals will please insert the above Circular.

"Philadelphia, January 6th, 1829."

[From our knowledge of the talents and industry of Dr ATKINS, the author of the following Circular, we have no hesitation in auguring the best results for those in the unfortunate situation which it is his object to ameliorate.—ED.]

"Dr DUDLEY ATKINS, having been much incommoded in his practice by the difficulty of procuring proper attention to crippled and deformed children, and believing that many might by such attention be made active and useful citizens, who are now consigned to a corner, a cradle, or the grave, ventures to make the following proposal. He wishes, if a sufficient number of subjects can be found,

(of which there is in his mind no doubt) to open a private establishment for the accommodation of this class of sufferers. The great skill which it is known may be derived from fixing the attention upon the study of any one subject, together with the difficulty which all parents of such children must have experienced in giving and procuring them attention sufficient for effecting their cure, will, it is hoped, prove Dr A.'s belief, that he can in this way be of some service to his fellow-creatures, not altogether fond and overweening.

"It is well known that surgeons devote their labours to the cure of diseases of single organs, as the eye, the ear, &c. with constant and undoubted improvement and success. The subjects of the diseases proposed as the objects of Dr A.'s attention, are at the least as peculiar in their character, and as widely removed from the routine of common practice, their history and treatment form no part of common surgical works, and their cure involves the use of apparatus which can only be obtained in large towns and among competent workmen. These cases moreover are rarely treated with beneficial results in a shorter period than six months, a length of attendance which, especially in the more unpromising forms of these complaints, may well exhaust the patience of the practitioner, who is not upheld and carried on by a certain degree of enthusiasm, and a particular fondness for this department of practice. These qualifications Dr A. hopes to bring with him to this employment, and he believes that the lights he has been able to obtain by a residence in the Hospital at Philadelphia, and visits to the larger Hospitals of France and England, aided by some mechanical ingenuity, by the most sincere interest, and the most untiring perseverance, may be of more efficacy than the irregular and partial attendance, which is generally given to the unhappy subjects of this humble and unpretending department of surgery.

"If a sufficient number of applications are made, a private house will be at once appropriated to this purpose, as preparatory to a more extensive establishment. The greatest attention will be paid to education, and the house will be open to public inspection, which will afford a security to parents at a distance that no abuses exist in the establishment. The success of a number of similar institutions in retired situations in Europe, and the known great number of cases of this kind among us, induce the hope that this proposition will meet with success. The kind of cases intended to be received are curved spines, club or distorted feet, and in general all kinds of deformity that are in any degree susceptible of relief. The expenses, it is believed, need not much exceed two dollars per week, which will make the institution accessible to people in moderate circumstances, while so good order will be preserved that the wealthy need not fear deterioration or neglect.

"This plan has been submitted to the consideration of Dr James Jackson and Dr John C. Warren, of Boston; and Dr A. is authorised to say that they highly approve it, and will give it all the assistance in their power."

The following work has been sent to us for review:—

Compendium of Operative Midwifery; or the Manual and Instrumental Operations of Preternatural Labours, reduced to the greatest simplicity; preceded by an Investigation of the Mechanism of Natural Labour. From the French of Julius Hatin, &c. &c. By Richard Tuite, M.D. formerly President of the Royal Physical Society of Edinburgh. New York. C. S. Francis, 1828. Pp. 171.

Just published, A Treatise on Physiology, applied to Pathology. By F. J. V. Broussais, &c. &c. Translated by John Bell, M.D. and R. La Roche, M.D. Second American Edition, with Notes and Corrections. Philad. 1828.

We neglected to notice, in its proper place, the following Translation. We can readily recommend it, and heartily wish the continuance of Mr Togno's useful labours:—

Manual of the Physiology of Man. By Ph. Hutin. Translated from the French, with Notes, by J. Togno Philad. Carey, Lea & Carey, 1828.

No. XIV.

ORIGINAL COMMUNICATIONS.

ANALYTICAL REVIEWS.

MEDICAL LITERATURE.

BIBLIOGRAPHICAL NOTICES.

QUARTERLY SUMMARY OF MEDICAL INTELLIGENCE.

MISCELLANEOUS ARTICLES.

THE

NORTH AMERICAN

Medical and Surgical Journal.

APRIL 1829.

Original Communications.

ARTICLE I.—*An Address introductory to a Course of Lectures on the Institutes of Medicine and Medical Jurisprudence. By* JOHN BELL, M.D.*

IN the scheme of instruction in the PHILADELPHIA MEDICAL INSTITUTE, my department is the Institutes of Medicine and Medical Jurisprudence.

Under the first head are comprised *physiology*, *hygieine*, and *pathology*, to which many have added *therapeutics*; but this is a latitude of interpretation which I do not conceive necessary on the present occasion, although I shall take the privilege of making frequent therapeutical application of physiological and pathological principles.

The usual import of the term institutes, signifying the principles and fixed laws in legislation or science, is asked for on the present occasion in reference to medicine, however rash or presumptuous we

* This address was first delivered in April 1825.

may thereby appear to the sceptic and the mathematical philosopher. We must, indeed, be prepared at the very outset to encounter all the false reasonings, misplaced pleasantries, and heartless sneers, which, from a remote period to the present day, from Pliny to Moliere and Rousseau, have been adduced against the certainty and utility of medicine. For this negation once proved, it would be an ungracious, as well as hopeless and useless task, to speak of medical institutes or principles.

But prior to any attempt at defending ourselves from unjust and illiberal attacks, by setting forth the strength and variety of our resources, we will entreat our assailants to grant a truce, while we glance around and inquire into the pretensions of the advocates of other intellectual pursuits, to certainty of rules and uniformity of results.

We shall pass over, without summoning to our aid the melancholy truth, that every thing of which human nature attempts to take cognizance, is but dimly seen, and imperfectly understood. We would rather first listen to the astronomer's triumphant exclamation, when he points to the starry heavens, and revolving suns, and worlds innumerable. Behold, says he, the power of the deity, and at the same time the evidence of man's persevering and successful inquiries: the revolutions of the several planets, the orbits of yonder moon, as well as of this earth which we inhabit, and all their countervailing forces, laid down with a calculating precision, a mathematical accuracy, which leaves no room for doubt: eclipses foretold; change of seasons, and succession of day and night, the rise and fall of the waters of the ocean, all made clear to every, the meanest capacity.

Let us, in reply, be permitted to allude to the lapse of ages, ere such a monument of intellectual prowess could be raised; and in the mean time how many centuries of vain gazing at the heavens indulged in by the astronomers of Chaldea and Egypt! how many absurd hypotheses from Ptolemy to Tycho Brahe! how few useful additions from the time of Thales and Hipparchus down to that of Copernicus and Galileo, embracing a period of nearly two thousand years! How recently have method and rigorous calculation been introduced by a Képler* and a Newton. But a century has

* We may form some idea of the state of astronomical science anterior to the

elapsed since the illustrious Englishman closed his truly brilliant career. Of his successors in the path of discovery, and expounding the secrets of the heavens, Euler, La Grange, and La Place; the two latter may be regarded as our contemporaries. From the earliest epoch, beyond historical record itself, astronomy has been a favourite pursuit; and yet it is only within the last half century that by its aid the navigator can fearlessly sail from shore to shore, and calculate, with tolerable accuracy, his situation and distance from land; and after all, the determining the longitude is a problem but partially solved. In fine, we must not forget, that notwithstanding all the boast of geometrical and analytical demonstration, some of the calculations most abounding in successful results have been formed on the Newtonian *theory* of gravity, on the assumption of a fact, without a knowledge of its nature or cause. Much yet remains unknown, and sincerely as we congratulate astronomers for what *has* been accomplished in their science, we cannot forget the thousands of years during which it was nearly stationary, and astrology, worse than ignorance, reigned paramount.

If next we look to chemistry as one of the exact sciences, and ask its votaries what are their pretensions for triumphing over us, we shall be promptly told, that nothing is by them admitted but what can be demonstrated by experiment; that the composition of bodies is ascertained by analysis, and their elements displayed to the senses; consequently every fallacy is avoided. But it is not a sufficient claim to the elevation of any study to the dignity of a science, that a great number of facts are rendered evident, and experiments made and recorded; without these be of sufficient moment, and possess such a co-ordination and regular sequence, as that we can deduce therefrom positive principles and maxims—institutes, if you will—which, taken from the known, shall be applied to and explain the mysteries of the unknown. If deductions, thus made, are of certain and invariable application, they constitute an exact science; but if they admit of many, I may say any, exceptions, they merely form a

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time of Kepler, who died about the middle of the seventeenth century, from the language held by that wonderful genius:—"It has pleased the Lord," said he, "to wait five thousand years for an astronomer like myself, and I can therefore well afford to wait a few hundred for proselytes to my doctrine: but eventually they must come."

theory. Now, barely alluding to the long series of ages, from Aristotle to Paracelsus, when the four elements were received as demonstrated, as a truth which could not be doubted, and hastily glancing at the centuries of alchemical absurdities, we willingly come down to the present brilliant era of chemistry. We will admit the variety and number of the facts disclosed by this study, and the value, nay, glory of their application to the wants of life, to the abridging labour, and ornamenting and embellishing all the works of man. If, however, we ask for the fixed principles of chemistry, we fear the reply will not be very satisfactory. We shall be told of elements to day, which will be proved compounds to-morrow; we shall find laid down rules for explaining the various changes in bodies, to which are exceptions in the very one chosen for illustration. This year we have one supporter of combustion, the next gives us several; nor can we see any evidence of fixity in a science, the nomenclature of which is undergoing such repeated alterations. We all know the singular spectacle presented to the scientific world, of the then two most celebrated chemists of Great Britain, at direct variance of opinion, respecting what is now called chlorine; the one in London affirming that it was a simple, the other in Edinburgh equally confident that it was a compound substance; and each explaining on his own theory, with plausibility and seeming correctness, all the phenomena produced by its combinations with other bodies. Respecting galvanism and electricity, the explanations are, for the most part, hypothetical. Even where analysis is used to determine the composition of bodies, it is most usually destructive, and cannot receive the support of subsequent synthesis. Chemistry ought not then to be called with propriety an exact science. It is as yet but approximative, partly demonstrative and partly conjectural. But let no one rashly venture to criticise chemists for frequent changes, and convert that into a pretext for censure, which is the strongest claim to our admiration of men, whose untiring zeal is ever prompting them to catechise nature, and render her oracles clear and satisfactory.

We will next concede our admiration to the laborious and minute observations, the travels and researches of the students of mineralogy and geology, without, by any means, admitting their pretensions as cultivators of an exact science. Facts they have in abundance, such as the chemical composition and geometrical form

or crystallization of many minerals; but definite arrangement does not exist: we wait, perhaps in vain, to see the conflicting theories of Werner, Hauy, and Berzelius, in mineralogy, reconciled and moulded into a doctrine or code, harmonious in all its parts, and which shall guide the inquiries of the tyro, and obviate the doubts and objections of the teacher. It is with a peculiarly ill grace (and yet it is done), that the geologist can venture to reproach the physician with the uncertainty of his profession, or the opposite theories which have been held and taught in our schools. To say nothing of the many and various speculations respecting the mass of our globe, whether its gravity increases as we approach its centre to such a degree as to be there equal to that of lead, or whether it be hollow or occupied by water or fire, we find in the discussions on the strata which can be subjected to observation, discrepancies of opinion so great as to be almost ludicrous. Thus, whilst one learned professor holds up to his auditors certain pieces of rock as having assumed their present form in consequence of disintegration, and subsequent combination and crystallization, by the agency of water, another, of not less learning and pretensions, in a rival school, will very gravely assure us, that the state in which we see the specimens, similar in every respect to the foregoing, and the stratification of the rocks from which they were taken, are the result of previous liquefaction by fire. Here then we have Neptunian and Plutonian, the advocates of fire and water, each calling natural philosophy and chemistry to his aid, and attempting to prove by them the correctness of his opinion; and yet these are among the gentlemen who, forsooth, very charitably, sneer at us, and laugh as far as politeness admits, at the discussions between humoralist and solidist.

To the followers of natural history, whether zoologists or botanists, we have no exception to take, so long as they occupy themselves in describing the external characters and habits of animals and plants. It is only when they would aim at elevating their studies to the dignity of a science, by classification and method, that we become sensible of their weakness. An Aristotle, a Buffon, and a Cuvier have accomplished wonders in the description and arrangement of the animal kingdom; to Tournefort, Linneus, and Jussieu we cheerfully award the palm of genius and discriminative observation in their systems of the vegetable: but imperfection is still affixed to the labours of these mighty names.

We too have our physiological characters and phenomena, our

symptoms of diseases, and accurately drawn descriptions of their progress and termination, yet no merit is conceded to us; and we are only reminded of the imperfect nosological systems of Sauvages and Cullen, and the theories of Boerhaave, Hoffman, Brown, and Rush.

After all, from no class of men do we so frequently hear all the changes rung of uncertainties, fallacies, and contradictions in medicine, as from our brethren of the profession of law. They pity us, to use a mild phrase, that we are deprived of evidence to substantiate facts; that we cannot on this evidence positively and determinately decide, like their judges, and record our decisions to serve as sure guides to our successors. In the fulness of their compassion they seem to forget the law's delay, and its worse than uncertainty. While listening to them, we should be tempted to imagine that they were governed by a system of jurisprudence founded on the nature of man, and adapted to all his wants; and of such general and universal application, that the law in it was clearly defined, and the penalties for breaking it laid down with such precision, and so extensively promulgated as to do away with all pretext of ignorance,—affording a sure protection to person, possession of property, and enjoyment of social rights, shielding innocence from persecution, and bringing condign punishment on crime. In what age or land shall we look for the original of this flattering picture? To have its full value, we ought to see it in the world entire: or has it been the work of civilisation and refinement alone? Shall we go back then to the period of Egyptian power and lore, and seek for it in the frightful despotism of her princes, and the superstition, ignorance, and debasement of her people, under the more immediate sway of a selfish, heartless, and intolerant priesthood? Where was the consistency or protection of law then? Are we to look for it under the monarchs and satraps of Persia and the east, whose word was law? Was it found in Greece, the land of arts and arms, of sages and of heroes, where a legislator in Lacedæmon sanctioned theft; and in Athens, where disinterested services and tried patriotism were rewarded with banishment, and exalted philosophy with hemlock; while property was placed at the disposition of an ignorant dicast. So far, at least, we think, without presumption, that medicine will not suffer by comparison with law; and that Hippocrates may be advantageously put in the scale of comparison with Solon and Lycurgus.

The Romans, during t[illegible] public, seemed to suffer

equally, first, from their want of laws, and afterwards from those borrowed from Greece. Nor were the endless differences, and often bloody struggles, between patricians and plebeians, consuls and tribunes, likely to remedy the evil, or give greater support to justice, by the enactment of good laws. We learn, however, that their subsequent accumulation under the emperors (so great as to form camel-loads) compensated most fully for earlier tardiness in legislating; and the evil became of such magnitude as to call for the codes of Theodosius II. and Justinian. But the remedy came too late, and was too imperfect to introduce order and justice in the place of general confusion, and open venality and corruption. It was left under the form of digests, institutes, pandects, and decretals, as a legacy to the modern nations who sprang up from the barbarian conquerors of the Roman empire. What are their laws, or what is jurisprudence now among them? Let the feudal privileges, customs having their origin in barbarism, the claims of aristocracies, military, civil, and ecclesiastical, and royal decrees, all having the force of law in most parts of Europe, be the reply to this question.

In France, the revolution swept away her laws of custom, of province, and of nobles, and in their stead she is now blessed comparatively with the code Napoleon, more adapted to the age we live in, and to common sense and equity. In England, from whom we have borrowed so much, we know by the confession of her own jurists, that her laws, common, statute, canon, and civil, are in such number, and particularly the two first mentioned, common and statute law, so masked by circumlocutions and technicalities, as to render it impossible for any man, during the longest life and with the most unwearied industry, to become acquainted with them; and without the fear of overcharging the picture, we may add, even with their titles. That they are frequently oppressive and vindictive is known to all; nor is it a fact of less notoriety that they are occasionally at variance with the plainest dictates of common sense. They too often give facilities for ingenuity to entrap innocence, and to throw a cloak over guilt. The mysteries of sham bails and sham pleas will very well compare with our lædantia and juvantia, or efforts to discover what will benefit a disease by knowing what is injurious to it: and indeed the fictions in law are, to the full, as puzzling and pernicious as the theories of medicine. Not all the drugs of an apothecary will so enfeeble the stomach of a patient as a chancery suit

the mind and heart of the poor suitor, who commits himself to its decision, or rather the promise of its decision. It may be bad taste, but I would prefer, for my own part, lingering with uncured dyspepsia to sinking under a broken heart. Is not the very title of a court of equity a satire upon other courts of law; yet before a poor suitor can have justice, it must be determined whether his case is to be governed by the rules of law or the rules of equity*.

We may estimate the *simplicity* and *certainty* of the law from some facts recorded by an elegant scholar, himself a lawyer (Butler). A gentleman wished a will made by which he could settle six estates of unequal value upon six sons and their heirs male, with certain restrictions in case of death, so that the estate in this latter case should go to one of the other sons. To have given full effect to this will, it would have required as many provisos as there can be combinations of the number six, which amount to seven hundred and twenty†.

Now, gentlemen, we shall hardly be accused of presumption in asserting, that we can cure any disease with as much certainty as a lawyer can make a will, if we are allowed seven hundred and twenty provisos to shield us from blame in case of failure. As to the *economy* of the law, we learn from the same writer, that if a deed, which he was instructed to prepare, had been executed in all the forms, the expense of necessary stamps would have amounted to ninety millions seven hundred and twenty two thousand pounds sterling, somewhere about the moderate sum of three hundred and sixty five millions of dollars. The fact is, that the lawyer and jurisconsult have the same problem of human nature to solve with ourselves: they may substitute what they call principles in its place, write them in blood, and decorate them with punishment and torture, but their legitimate success is not the more assured.‡

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* Butler's Reminiscences, p. 40, Phil. edit. † Op. cit. p. 53—4.

‡ In a recent appeal before the house of lords, the earl of Eldon, in moving their lordships to make an order in the case, mentioned some extraordinary instances of discrepancy between the judges on questions of law. "The late lord Thurlow, said lord Eldon, sent a question, at one time, for the opinion of the court of king's bench, when lord Kenyon was chief justice of that court. Lord Kenyon returned an answer to the question, but it was so little satisfactory to lord Thurlow, that he sent it back to lord Kenyon, with a request that it might be reconsidered. Lord Kenyon was somewhat surprised at such a proceeding;

You will, I am sure, gentlemen, receive these remarks with the same spirit in which they are delivered; not for accusation or invective, but for the promotion of candid inquiry; the result of which shows that medicine is not so comparatively uncertain and fallacious as many intelligent and well intentioned persons would fain persuade us. With the hope of silencing those who, puffed up by the imaginary security of their own defences, still would rail at our weakness, I will adduce a few additional opinions of the philosophical and the learned on causes and certainties. First, we may say with CONDILLAC, that we know not the nature of things; but it is also equally evident, that we know not a few of the relations which they have to us. In fact, to use the language of a celebrated teacher of mathematics, if we except the mutual causality and dependence of the terms of a mathematical demonstration, I do not think that there is any other causality in the nature of things, wherein a necessary consequence can be founded. What, as has been observed by a learned divine, are the laws by which matter acts on matter, but certain effects which some having observed to be frequently repeated, have reduced to general rules. Thus, as we find it elsewhere remarked, the laws of attraction and repulsion are to be regarded as laws of motion, and these only as rules or methods observed in the production of natural effects, the efficient and final causes whereof are not of mechanical consideration. Attraction cannot produce, and in that sense, account for the phenomena; being itself one of the phenomena produced and to be accounted for. Finally, the great Locke himself, educated a physician, holds for us this consolatory language:—the communication of motion by thought, which we ascribe to spirit, is as evident as that of impulse, which we ascribe to body:—constant experience makes us sensible

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but he did reconsider the subject, and the result was, that he gave a second opinion directly opposite to the first. I myself," added the noble earl, "at one time requested the court of king's bench to certify to me their opinion as to the estate which some person took in some lands. The court of king's bench were unanimously of opinion that he took an estate in fee. I was not satisfied with this opinion, and I therefore sent the question to the court of common pleas, who were unanimously of opinion that he took *no estate at all* in the lands in question. Now, I was impertinent enough to think that they were all wrong, and I made an order directly opposite to the opinions of both courts; and, what is very extraordinary, my decision satisfied all the parties concerned."

of both these, though our narrow understandings can comprehend neither.

Carefully abstaining then from any speculations or disquisitions on the nature or first causes of the life which animates the frame of man, or of the mind which guides its movements and actions, it shall be my endeavour in these lectures, 1. To point out to you the phenomena of life as we are made sensible of them, and the modifications arising from difference of organization or intimate structure of the several parts of which the body is composed; as well as those successive changes and alterations depending on age and external agencies. 2. To direct your attention to all the means by which the health of the body, as a whole, and the integrity and energy of function of each of its organs are preserved. And 3. To indicate that trouble and disorder in the various parts of the body, separately and conjoined, by which it deviates from the healthy standard or natural state.

In the accomplishment of the first part of our task, we shall be led to study Physiology, which may briefly be defined as a knowledge of the qualities and order of the phenomena of the body in a state of health. In the second, we go over the subject of Hygieine, or the method of preserving health and prolonging life. The third branch is Pathology, or a knowledge of the animal body in a state of disease or death.

Both physiology and pathology suppose a knowledge of function, the first of healthy, the second of diseased; and both of course presume a previous acquaintance with the anatomy or structure of the human body. As has been very correctly remarked, dissection, and the various auxiliary processes employed by the anatomist, are the only means of learning the structure of living beings: observation and experiment the only sources of our knowledge of life. These are the tests or criteria on which we must depend, and to which we must always refer. No position respecting structure can be listened to unless it admits of verification by appeal to anatomy; no physiological statement deserves attention unless it be confirmed by observation.

When we examine the human body, we find it in one sense a machine constructed on the most exact mechanical principles, and of course for the correct understanding of its movements we must be acquainted with the principles of mechanics. Considered in another point of view, we fi [illegible] of different kinds circulating

through tubes of various diameters, to be explained in part by a knowledge of hydraulics.

The transparent parts of the eye act on the rays of light, according to the common laws of optics, and bring them to a focus, so as to form an inverted picture of the object on the retina just as well in the dead as in the living organ, provided their transparency be unimpaired; of course the phenomena of vision cannot be explained without a knowledge of the principles of optics.

Surrounded as the human body is by an elastic fluid, the air, the supporter moreover of respiration, and subject to various changes in respect of gravity, heat, moisture, and other qualities, which have great influence on the constitution, it is necessary to be informed of the nature and properties of this fluid, the knowledge of which constitutes the science of pneumatics.

Again, various changes are induced upon the fluids from chemical principles. The researches of chemistry into the composition of the fluids and solids of the animal frame, and comparative examinations of them under the different circumstances of age, sex, climate, food, mode of life, and the various incidents of disease, have thrown great light both on the healthy and disordered actions of our frames. In fine, many important points in physiology cannot be understood, nor the nature and results of many animal processes appreciated by a person unacquainted with chemistry.

But, gentlemen, while we thus freely admit the utility of the physical sciences, let us not overrate their importance, or think that we can, by a knowledge of them, form a correct estimate of the powers and movements of the animal frame. So far from this being the case in all, we cannot apply such knowledge to the explanation of any one function or process in the living body. We cannot, for instance, forget the totally opposite results at which different mathematical physiologists arrived in treating of the same functions. One estimated the force of the heart as equal to 180,000 pounds; another reduced it to eight ounces. Nor can we, with any precision, calculate by the aid of hydraulics the quantity and momentum of blood circulating in the vessels of the body, varying as it must in these particulars according to the amount of nervous influence on the heart and blood-vessels, to say nothing of the elasticity of these latter. Any attempt, moreover, to explain the operations of the nerves and muscles and glandular secretion, by chemical agencies, or resolving life into a mere play of chemical affinities, or making it

depend on electricity, galvanism, and magnetism, must lead to regrets at time mispent and labour lost.

Physiology has been much more sensibly indebted for its advancement to a knowledge of the comparative anatomy of animals, especially the mammalia, or those which most resemble man in their structure. Several important discoveries have been made or illustrated by experiments on brutes, such, for example, as those relating to the circulation of the blood, respiration, muscular motion, the functions of the nervous system and absorption, together with the effect of various medicines. Here, again, we must beware of giving too much importance to this branch of natural history; otherwise, in place of proof, or fair illustration, we are misled by remote analogies. Thus, because the gizzards of the gallinaceæ have a prodigious triturating power, and correspond in a measure to the stomach in man, it was hastily and erroneously inferred that digestion was effected in the latter by mechanical attrition. On similar grounds it has been argued, that the arteries of man, and the mammalia generally, must have a contractile power, because in some worms without a heart the vessels carry on the circulation alone: but the whole economy is too different in the two instances to admit of inferences from analogy.

The same remark applies with much force to the experiments made on cold blooded animals, in which nervous power and the circulatory apparatus are so different from those of man. Even in the warm blooded or mammalia, most nearly approaching to man in organization and functions of parts, there are very notable differences in their capability of being affected by certain medicines and poisonous substances, some of them eating with impunity what would soon prove fatal to us.

The vivisections, or experiments made on living animals, instructive as they have been found, are liable to lead to numerous and serious fallacies of induction. The alarm and terror of the animal, which is the subject of experiment, so soon as it is tied, or its rage and violent efforts to escape, destroy the habitual order and harmony of its functions. And how much greater must this disorder be when the scalpel is applied; we then have loss of blood, cutting of nerves, prostration of vital power, and perhaps convulsions; difficulties which must impede the successful prosecution of the experiment and complicate the inferences that might be drawn from it. Parts cut or tied unintentionally, and so many others de-

stroyed as to force the remaining ones to take on vicarious and unnatural action, are additional obstructions. Fearing that I might discourage you from a judicious, and properly matured course of experimenting, I shall not on this occasion lay much stress on the contradictory opinions held by many physiologists, each of whom insists on his being the results of experiments.

Surgery, and the various injuries and mutilations of the human body, of which it attempts the relief, has proved of essential service to the progress of physiology; and hence the practice of the former, and the successful study and advancement of the latter, have been so often carried on by the same individuals.

Pathology also has in part repaid the debt to physiology, by showing to what extent an organ is capable of performing its function, when curtailed of its proportions or suffering in texture. It is thus we have learned that the power and extent of vision are nearly as great with one eye as with two; that a portion of one side of the brain may be destroyed, and the process of intellect not much affected; and that one lung may be useless by hepatization or destroyed by ulceration without respiration being materially impaired.

From what has been already advanced, we may, I think, divide physiology into two branches; or, in other words, the actions and functions of our organs may be studied in two separate ways. The first is prosecuted by means of the different aids furnished by other sciences, and comparative anatomy and experiments on living animals; it consists in examining whatever is mechanical in the movements of each part, such as determining the force, direction, and effects of the contractile motion of the digestive tube, assigning to the stomach its share in vomiting, analysing all the circumstances which modify the course of the blood, and demonstrating the activity or passiveness of the arterial canals, noticing the causes of the movements of elevation and depression of the encephalic mass, explaining the mechanism of the senses, as of seeing and hearing, &c. The works of Haller, Barthez, Le Gallois, Richerand, and Magendie, abound in analyses and explanations of this part of the study of man or branch of physiology, which, however amusing, is not that which will most safely guide and enlighten the medical practitioner. It is to him a matter of comparative indifference to learn how the stomach and heart contract, or arteries act: what it behoves him to know, with the most rigorous exactness, are the

causes which accelerate, retard, or pervert, the movements of these parts: how, and under what circumstances, an impression produced on one organ is transmitted to, and felt in others more remote. With this view we must watch and analyse the effects which all surrounding bodies produce on the human frame, discover on what parts they more especially exert their action, seize by continued and attentive observation the most transient signs of the excitation of such part, and appreciate the modifications which age, sex, temperament, and idiosyncrasies produce in the general or local phenomena. Such is the true physiology of physicians; as exact and positive as the former, though demanding more time, patience, and rigid intellectual scrutiny. To it also belongs to inquire into the laws of the union between the mind and body, the effects of culture and education, civilization and refinement upon the constitution, also into the power of habit, the effects of enthusiasm, and force of imagination.

So soon as we define hygieine to be that branch of the institutes of medicine which points out the means of preserving health and prolonging life, we become immediately aware of its close connexion with physiology. We cannot treat of the former without a knowledge of the latter. The directions for selecting a healthy residence, using nutritive diet, and taking suitable exercise, must presume some knowledge of respiration, and the changes which the air undergoes in the lungs; or speaking less equivocally, the manner in which the lungs are affected by certain airs; also an acquaintance with digestion, and the influence of muscular motion on the other functions. In fine, to preserve health we must know in what it consists, which can only be learned by physiology.

The study of hygieine will be very materially promoted by a perusal of the narratives of voyages and travels in other and distant countries, whereby we become familiar with the effects of different climates and articles of food; but for the knowledge of which we should have entertained erroneous notions acquired in our own limited sphere of observation and experience. Information thus obtained will be found of safer and more practical application than that derived from experiments on animals, or on a few individuals in the immediate circle of our acquaintance. Animals have appetites and tastes so different from our own as to require nutriment of a totally opposite kind from that which we use ourselves. Thus, what inference can be drawn, for our benefit, from such experiments

as those of MAGENDIE, to ascertain the nutritive properties of certain articles, as sugar, butter, or oil, given for some days in succession to dogs. These animals sank under such food, and straightway it was inferred that it could not minister to our support. But why so strangely forget, that a dog is an animal essentially carnivorous, however much his tastes may be modified by domestication; and that of course flesh is intended by nature to be his food. We might with equal propriety give to herbivorous animals, cows for example, mutton chops or portable soup, and deduce as a consequence, from their pining away under such a diet, its inapplicableness to nourish man, who, be it remembered, is omnivorous or polyphagous, living on fish and whale oil in the arctic, and rice and bananas in the torrid zone.

One of the most valuable and delicate applications of hygieine, or at least of our knowledge obtained by the study of it, is to the convalescent from acute diseases, or the invalid suffering under chronic ones, when the organs are too feeble to take on their pristine physiological energy, and require of us the nicest discrimination in adapting to them diet and exercise calculated to bring them back to their healthy state. It is then that we desire to know the average salutary and digestible nature of articles of food, as ascertained by a long and careful observation of what had been used and tolerated in health. This apparently obvious and simple guide is, however, too often overlooked, and the patient or convalescent is made to take ingesta which would prove too stimulating to a person in full health. Thus, for example, to how many persons in chronic maladies or in a state of convalescence is not chocolate recommended for diet; and yet very little attention will satisfy us, that of twenty persons in the enjoyment of full vigour of constitution, it will disagree with ten of them, and give rise to flatulences, indigestion and other unpleasant consequences.

Pathology, the third branch of the institutes of medicine, and the end and object of our studying the others, has been already defined. It embraces the consideration of all the changes taking place in the human body, from its first deviation from a healthy or physiological state, through disease, on to entire recovery or death; and marks the appearances of the organs after this last sad termination. It of course includes the study of the causes, as well as the symptoms or diagnosis, the signs or prognosis, and the alterations discernible in *post mortem* examinations.

Ætiology, or the knowledge of the causes of disease, resolves itself into two parts. In the first we note all the external agencies which affect man; climate, atmospherical vicissitudes, localities, habits induced by civilization, including the effects of vicious education, professions and trades, also of the ingesta or various kinds of food, and of the percepta, or the passions in their extremes. This part is of course closely connected, and almost blended with, hygieine, and shall be treated of accordingly. The second division involves the inquiries into the part or organ first and most materially impaired in structure or function, and the lesion of which keeps up the morbid actions of the rest of the body. Here we find ourselves necessarily involved in the observation of symptoms, or symptomatology, so as to deduce from the outward evidence the inward suffering. As the disease advances, the symptoms become more equivocal and complex, and are presented to us in the character of certain physiognomical traits or signs which aid us in the foretelling the termination of the malady in health or death; or in other words, establish its prognosis. Such is semeiology or semeiotics.

It is in estimating the value of symptoms and signs, and determining thereby the organ primarily or principally diseased, that pathology is enlightened by physiology, and in its turn proves so serviceable a guide to Therapeutics. The symptoms of diseases are in fact but the expression of the difference which exists between the healthy or physiological, and the morbid or pathological state; and it becomes us if we would act on the principles of sound logic to scrutinize a disease, not so much for what it seems to be, as in its disabling the animal economy from affording the manifestations of a healthy state.

Let us develope still further this proposition. The means by which our organs manifest their sufferings are reducible to the following: first, pain; second, alteration of their function; third, sympathetic phenomena, which are the consequences of their correspondence of action with other parts.

We may illustrate this by tracing the conversion of physiological into pathological phenomena, or rather the transition from the former to the latter. Pain is but an exaltation of the natural sensibility of a part, and is in its intensity in disease proportionate to the latter in health, whether one or the other be excited by direct impression or sympathetic action. We all know, for example, the great sensibility of the stomach, and how variously, but still plea-

surably it is affected by different ingesta, solid and fluid. We know also from personal experience and feeling, how promptly pain may be produced in it.

Let us suppose now two persons of the same habits and tastes, both enjoying good health, and both, after long and somewhat fatiguing exercise, sitting down to their repast. The one takes food of the usual kind and quantity, with water for his beverage; he soon experiences his customary renovation of strength and corresponding pleasurable sensations diffused through the whole frame, which are productive also of mental satisfaction. After a little longer lapse of time, with a feeling of some fulness about the gastric region, he has also the skin somewhat warmer than before, his heart beats quicker, respiration is a little accelerated, with a sense of fulness about the head, and some drowsiness. Soon however, this state yields to one of vivacity of thought and movement, consciousness of strength and ability to undergo fatigue. All these constitute a circle of physiological actions, of the stomach, the heart, lungs, skin, brain, and muscles. Variation of sensibility, but no pain, is experienced.

We will now imagine the other person, companion of the one just mentioned, who, in place of taking his usual repast, attempts prompter renovation of his powers by richer and more stimulating articles of food than common; washed down by several glasses of wine. For the first few minutes he seems inclined to triumph over his friend by boasting of the exhilaration which he enjoys. Soon, however, the excitation exceeds the line of comfort and health. There is a heat and pain in his stomach, burning of the skin, violent palpitations of the heart, and hurried breathing; the vessels of the head are turgid, and throb violently; the eyes are injected, and complaints are uttered of acute pain in the head. After a time, the stomach, irritated and pained, ejects its contents, and partial relief is experienced; the skin is moister, and the secondary irritation in the heart and brain less: but now follows general languor, disinclination to muscular effort, depression of spirits, and impaired function of the senses, which are in a state of undue excitement; the eyes are watery, and intolerant of light, and the ears of sound; the sense of taste is vitiated; and we find the tongue loaded with a whitish yellow mucus.

Here we have a circle of actions of the same extent as the foregoing, and formed of the same organs; but sensibility is exalted

into pain; this is followed by disturbance of function, and a number of deviations from the healthy standard, in parts remote from but sympathizing with that first affected. The state is, in fine, changed from physiological to pathological. Would we record what we have just seen, we begin with ætiology, or causes of the disorder, and refer the external ones to the ingesta taken in excess, and of improper quality; the internal ones are the troubled actions taking place in the stomach, and morbidly affecting it. If required to prove this we refer to the well known and acknowledged physiological phenomena, already described, following the moderate excitation of this viscus; and we feel ourselves justified in commemorating the present condition of it by all the changes which have met our senses, and which we note down under the head of symptoms.

Do you desire a picture marked by stronger features and darker shading? we present you a person bent forward and unable to support himself; the face alternately pale and flushed; the eyes half open, injected, and filled with tears; the borders of the eyelids of a deep red, voice nearly extinct, respiration short, frequent and laborious; a sensation at the stomach as if it were consumed by fire, constant spitting, hiccup, nausea, vomiting of brown or bloody matter; lips, tongue, and throat, inflamed; black and fetid alvine discharges; thirst inextinguishable; great heat over the whole body; urine red, bloody, and in small quantities; occasional delirium and convulsions. You inquire into the cause of this person's horrible situation, and you learn that he has swallowed arsenic: death soon relieves his agony. We have watched and recorded attentively the symptoms; we have seen pain and great disturbance of function in many organs. Our object now is to try their value by examining the subject which has expired, and noting down the organic changes. We knew during his life time the first link in the chain of morbid derangement of function, and we find now, on examining the stomach, that its inner surface is covered in part with red spots of different degrees of intensity; in part with black patches; while in other places it is entirely corroded; that the small intestines exhibit somewhat similar appearances; the lungs are gorged with blood, and their inner surface inflamed; so also is the whole lining membrane of the throat and œsophagus, and even the inner surface of the bladder is red and engorged.

We learn, after a time, by examinations of this kind in deaths from different causes, that after the greatest distress and suffering

of the digestive organs, associated with cough and fever, there is often no structural alteration found, except in the lining membrane of the intestinal tube and lungs. In our endeavours to trace the chain of causation, we have noted the symptoms, seen the changes after death, but still waver. We look now to the guidance of physiology, and inquire whether organs have coats or membranes differing in appearance, structure and vital properties; and if so we ask which is the one dominant, or on the excitation of which the action of the viscus depends: next we desire to ascertain, whether different organs performing different functions have a common coat or coats which possess the same appearance and vital properties. We are soon led to answer affirmatively to both these questions, and, as illustration, point out the outer membrane of the eye, the same which lines the eyelid, descends with the lachrymal duct into the nose, is expanded over all the nasal cavities, lines the mouth and the canal leading to the ear, is extended to the fauces, pharynx, œsophagus and the intestinal tube on to the rectum: again, from the fauces it passes down into the larynx and lines the cavity of the lungs. So far it is a continuous membrane, and the knowledge of this fact and of its properties removes the feeling of surprise at the consentaneous action in health and disease between the different organs which it covers and lines; as, for example, the stomach and lungs. But there is yet another division of it which lines the urinary organs in both sexes, and the urethra in the male, and the vagina, uterus and fallopian tubes in the female. Between these parts and those formerly noticed there is also a remarkable sympathy; they act on and are acted on by them.

The pathologist, thus enlightened, does not lose his time in framing arbitrary divisions of diseases, according to the organ or the nature of some leading symptoms, but with a comprehensive eye examines the morbid changes in a separate structure or tissue, and seizes the key to unlock the mysteries of morbid functions. He can at once make the most prompt and beautiful application of his acquirements to the treatment of disease. Is it purulent ophthalmia, catarrh, indigestion, diarrhœa, dysentery, irritation of the bladder or urethra, or fluor albus; he sees but a disease of the mucous membrane, which will be relieved by the same medicines and remedial means. So the serous and other tissues are studied in the same way. Who does not acknowledge in these principles a guide more safe and easy than any hitherto followed for the writer on the materia medica? Led on by these means, he sees in mercury, pro-

perly administered, a useful remedy for certain morbid conditions of the entire mucous membrane, whatever may be the organ it is in union with, as in the terebinthinate class, balsams, &c. he will find useful aids to check and correct the enfeebled state of this membrane and the profluvia accompanying it. Tartrite of antimony again would seem to be the agent best adapted to control the morbid excitement of the serous tissue, as in pleurisy, &c. But I must not attempt any further applications, and hasten on to a conclusion by saying a few words on medical jurisprudence.

This science, sometimes called *legal medicine*, points out the application of the knowledge and precepts in the different branches, principal and accessary, of medicine, to the elucidation of questions of law and right, which are to determine the punishments for attempts affecting or endangering the health and life of a human being. The medical jurist to an exact knowledge of the various branches constituting medicine, properly so called, must add an acquaintance with natural philosophy, chemistry, and natural history, and even with the civil and criminal laws of the country in which he resides. The effects of external violence, as of wounds, are to be accurately traced by the physician, who is to note the succession and order of parts wounded, and be aware of the course he is to pursue in probing or dilating. Anatomy and surgery must then of course aid him with their lights, while by an intimacy with chemistry he discovers the means of suspending or preventing death from poisons; or if death takes place without his cognizance, he can determine by suitable tests the presence or absence of a poison in the stomach, for example; and also speak as to the changes of appearance and structure produced by these means. To him likewise the community looks for a decisive opinion of the true state of the mind in all those cases in which pleas of insanity are urged by the friends of an unhappy individual either to shield him from the penalty of some rash and cruel act, or for the purpose of subjecting him to a strict surveillance and partial confinement, as one no longer master of his actions, nor entitled to receive and transfer property. In this department of medical jurisprudence great advances have been made during the last half century; with the effect of making the interests of the individual under mental alienation compatible with the tenderest aspirations of humanity, while society at large is protected from any sudden interruption of its tranquillity.

Imperfect, gentlemen, as is this sketch of the outlines of the in-

stitutes of medicine and medical jurisprudence, enough, I hope, has been traced to give you an idea of the ampleness of their resources and the magnitude and variety of their applications. They require that we shall have visited the halls of every science, and selected from them some maxims and rules for our after use; they invite us to look abroad on nature, to invoke her in her calm as well as in her troubled movements, whether we be amid the elemental strife, or gazing at the bright Favonian sky.

In the grove, or on the mountain top, or by the rippling stream, we have Hygieia for our guide. With her we may study the harmonies of the vegetable and animal creation; and learn what will nourish, what heal, or what destroy in the former, and the preserving power of instinct and mute expression in the latter. Looking around on our own species, we gaze on youth and beauty, the vermeil lip, the rosy cheek and sparkling eye, not as sensualists, or idle dreamers; but to see the signs of health, to contrast them with melancholy's pale and withered face and tottering form; the stamp of suffering and disease. We watch the artless smiles and ready gambols of childhood, the impetuous and enforcing look and gesture of youth, and the sedate collected features of age, as physiognomists, anxious to catch the most evanescent expression of affection, fond and confiding, or of passions dark, wasting, and suspicious: for to us often belongs the task of administering to a mind diseased, while we at the same time alleviate the body's sufferings. Not idly or uninstructively then do we study and admire the wonders of the imitative arts by which the canvas is made to glow with innocence and love, or to present with startling truth, the care worn lineaments of crime, and the pangs of remorse. Not in vain for us ought the epic and dramatic muses to utter in harmonious numbers the sentiments of high toned resolve, meek-eyed devotion, guilt for a while triumphant by its violence, or ensnaring innocence by the aids of fraud and hypocrisy. All this is human nature; and if we are the high priests in the temple on whom devolves the task of replying to the piercing cry of pain, the desponding murmurs of wasting disease, or the maniacal shout, whose very echo makes hope turn pale, we must first have received the confessions of human infirmities, and become possessed of the reasons of every deviation from health and happiness.

How alluring, and yet how philosophical, that beautiful fiction of Grecian mythology, by which Apollo was made the tutelar divinity

of poetry, the fine arts, music and medicine. Why should we sever the bonds of relationship thus deliberately formed and solemnly sanctioned, even though *we* no longer bow to him of the unerring bow? Let but our efforts be at all commensurate with the benevolence of our calling, or the nobleness of our purposes, and our success cannot fail to be as signal as our reward will be great.

ARTICLE II.—*Acupuncturation successfully employed in Nervous Affections of the Eye. By* GEORGE BATTA QUADRI, M.D. *Member of the Bourbon Royal Academy, Professor of Clinical Ophthalmology in the University of Naples, &c. &c. Translated from the Italian by* WILLIAM DARRACH, M.D.

Acupuncturation, in the judgment of many, has received all the consideration which it deserved. It appears to me, however, that this therapeutic agent has been depreciated, and too hastily abandoned. Permit me, therefore, to present a few cases of successful treatment by its means which will establish its utility, and remove the scepticism that has of late been entertained respecting its importance.

My first attempts with this remedy were made in cases of ophthalmia and paralysis of the optic nerve; they resulted so unfavourably that I determined to have them published to its discredit. But the authority of the distinguished NEMOURS, who has so much extolled the practice, made me doubt the correctness of the opinion I had formed, and induced me to continue this Chinese practice.

Case 1.—This was a woman who had not long entered the Royal Hospital, afflicted with incipient amaurosis. So soon as the needles were introduced, a favourable change took place. The almost instantaneous benefit afforded in this case was such as to excite the admiration and astonishment of all my pupils. But, within four weeks of the operation, the restored sight failed her. Circumstances prevented a further treatment, as well as a subsequent history of the poor woman.

A careful examination of the circumstances of this first, and in a degree, favourable trial of acupuncturation, determined me to re-

gard it as a *means by which to make a salutary impression on the nervous system, to equalize the galvanic power of the deranged nerves;* and therefore not wholly to rely upon it in subsequent cases, but to follow up its employment with the use of *phosphoric frictions* to the part affected, at the same time also acting upon the digestive organs by the means recommended by RICHTER and WARDROP.

Case 2.—This new treatment was tried March 15, 1826, in the case of Miss Mary Delphine, of Saint Margaret. After a series of adverse fortune which befel the family of this truly estimable French lady, in common with that of her disturbed country, her sight became impaired; that of the right eye almost lost, and that of the left stricken suddenly with complete amaurotic blindness.

Two needles were passed through a plait of the skin of each temple, a little above the zygomatic arch. The patient began to discern objects almost immediately; the dark cloud on her vision, which had so long afflicted her, disappeared gradually. The phosphorated oil was next used, rubbed by my hand for some time over the orbits. In addition, a large dose of RICHTER's pills was administered. By this combination of means the primary effect produced by the acupuncturation was sustained and advanced throughout the day of the operation, and has terminated in perfect restoration of sight. She has, at this moment, although more than seventy years of age, the enjoyment of complete vision.

Case 3.—Prince D'Angri invited me, January 11th, 1828, to treat one of his domestics, Charles Behr, having amaurosis of both eyes, the right principally affected: objects of a certain form he could yet discern, though confusedly and enveloped in mists. The complaint consisted, doubtless, in a morbid condition of the optic nerve, together with those of the third and ophthalmic portion of the fifth pairs, caused probably by an exposure to a cold damp atmosphere when affected with an inveterate syphilis. The acupuncturation, employed as in the previous cases, produced immediate benefit. The patient began to see with remarkable distinctness. To sustain this regained nervous power, and to conduct the case to a permanent cure, the phosphoric frictions were next used; and a pill of the *deutophosphate of mercury* (deutofosfato di mercurio) administered every evening, and the alterative pill of RICHTER every morning early: hoping by this latter additional treatment to rouse the nervous system of the bowels and increase digestion, whilst at the same time, by the alternate use of these two prepara-

tions of mercury, to prevent the desired constitutional effect ceasing too soon; a common consequence, owing to the power of habit, to the *uninterrupted* and long continued use of any one mercurial preparation. This case also terminated successfully.

Case 4.—Gabriella Rudsen, a Danese, of a healthy robust constitution, but having an irritable nervous system, was attacked, first with hysteria and subsequently with a severe amaurotic affection (una vera ambliopia amaurotica grave). These complaints appeared soon after she left her country to accompany the princess Pignatelli in her travels. At first, objects appeared indistinct, and then came on, instantaneously, a state of total blindness.

From the success in the two former cases, and the belief that the nervous system of this young girl needed to be roused, I did not hesitate to make another trial of my plan. I employed the acupuncturation, the frictions of phosphorated oil (l'olio fosforato), and RICHTER's pill, as in the case of Mary Delphine. Before the additional treatment was resorted to, the needles had, for some time, restored vision. Antihysterical remedies were subsequently administered, and in a little while she was perfectly and permanently cured.

Case 5.—Madam Abel, a French lady, who of late has resided in Naples, afforded an opportunity to show the efficacy of acupuncturation in a nervous affection, differing from all the above cases. It was not in this instance a sudden loss of sight, but a nervous attack, which occasioned a most *severe pain about the eye* (una attacco nervosa ai contorni dell' occhio il quale occasionava dolovi acerbiosini). The patient attributes the complaint to a spark of fire which fell upon the left eye-lid, below the passage of the tendon of the trochlearis muscle. This accident produced an ulceration of the eye-lid; but her present painful affection cannot depend exclusively upon a cause so local and trifling. The fire caused a slight redness of the eye, but this could not be regarded as a severe inflammation. The lady, though of a good constitution, has for some time been subject to hysteria, consequent to menstrual irregularities, occasioned partly by sedentary habits and more by her time of life. I was disposed, therefore, to conclude, that her present severely painful complaint depended on an irregular circulation of lymph about the neurilema, effected by the excitement, from the fire, of the nervous system generally, and especially of the infra-orbitar branch of the fifth pair; or, in conformity with the doctrine

I published some time since, to an irregular development of the galvanic fluid which animates the nervous system and, when unequalised, causes in the nerves the most dangerous and painful irritation.

Under the belief that acupuncturation determined a flow of the lymph from the sheath of the affected nerve to the part operated on, as to a focus, or caused a derivation of the galvanic fluid, the needle acting as a conductor, and by one or both these ways would remove disease from the nerve, I proposed to the patient the method in question. And although it seemed like adding pain to pain at first view, nevertheless, to perform this safe operation, in order only to divert the attention of the sufferer, fixed as it was on the primary seat of the disease, did not appear to me a useless expedient. I therefore passed a needle into the substance of the eye-lid precisely over the expansion of the supraorbitar nerve (nervetto infratrocleare). In a moment she felt better, and soon the pain ceased so as to permit repose and sleep, after thirty hours of agony, and in three days I had the happiness to see my patient return home perfectly cured.

Case 6.—Since my practice in the above cases, I have successfully applied acupuncturation as a revulsive to cases of severe ophthalmia, effecting advantageously by it a counter morbid action at a distance from the seat of the complaint. The severity of the ophthalmia is often thus alleviated. I have found this method serviceable when the ophthalmia begins to pass into its chronic stage, or when it is already in that condition. I have seen, however, a female patient suffering under a severe ophthalmia *in the acute stage*, who was empirically, and without my advice, subjected to the operation, and the poor girl passed several days in a state of distressing aggravation of her disease; which confirms me in my opinion, that *acupuncturation should be adopted in the chronic, and never in the acute stage of ophthalmia.*

After a knowledge of the above facts, I certainly ought not to reject acupuncturation, especially since it is not an operation, if used as in the above cases, either dangerous or very painful. I recommend skilful practitioners, after a candid consideration of this paper, to use it in neuralgic cases. They will find it advantageous in painful affections depending on a want of balance (das sbilancio di azione), in the vessels of the neurilema; in derangement of nervous function from compression of the neurilema; in cases in which

a revulsive action is demanded; and lastly, when an excitement of the nervous system would be salutary, as in hysteria and in persons of nervous temperament.

These interesting results are so directly in accordance with the established physiology and pathology of the day; and are confirmed by such authentic experiments, that it seems to be my duty to recommend acupuncturation on the principles above stated. In practice, let a fold of the skin be made; through it two or three needles are to be introduced, and there left for *three* or *four* days; after which they should be removed.

Acupuncturation of the large nerves directly, which has been practised by some, I cannot venture to employ fearlessly, particularly in the affections of the ophthalmic nerve of WILLIS and of the infraorbitar. From the time of HIPPOCRATES medical men have observed unhappy results from wounds of these nerves, which we daily see confirmed by the most unfavourable instances. These recall the case of Philip of Macedon; the wound from a dart which he received on the eye-brow, was perfectly healed by CRITOBOLUS; but it was followed by blindness of the eye. I ventured however upon the practice in the case of Joseph Giavarone; no injurious consequences happened, but the operation was without any benefit.

[The cases of Dr QUADRI are deserving of much attention; and the distinctions which he has so scientifically drawn between a temporary and permanent relief by means of the needles, and the consequent necessity of additional remedies for making a more effectual and lasting impression on the disease, should be carefully noted by those who would imitate the practice. Some regard should also be paid to the advice of allowing the needles to remain in the skin for three or four days; thus, no doubt, producing some inflammatory irritation, and hence proving advantageous on a principle different from that alluded to by our author.

Our colleague, Dr LA ROCHE, from whom we have received the above communication, is personally acquainted with Dr QUADRI, and speaks favourably of his professional reputation. ED.]

ARTICLE III.—*On the Origin of Periodical Fevers in Rome, and the Adjoining Country. By* GIACOMO FOLCHI, *Professor of Hygieine, General Therapeutics, and Materia Medica, in the Roman Archigymnasium, Chief Physician to the Hospital of San Spirito, Member of the Academy of the Lincei, &c.**

Some years have now elapsed since, while advocating with BROCCHI the utility of woollen garments in the country around Rome, in which periodical fevers prevail to such an extent, I adduced some facts tending to exclude the supposed agency of *marsh miasma*, and to exhibit as remote causes of those fevers the moisture and diminished temperature which occur in the sickly regions above mentioned during the night. (*Giornale Arcadico. Gennajo*, 1823, *p.* 1.) It will not be foreign from our present purpose to recapitulate these facts. 1. A hot and constantly dry summer is the most exempt from fevers; whereas the most sickly one is that in which falls of rain alternate with atmospherical vicissitudes of temperature. This fact has no need of confirmation, since it is one of familiar experience with Roman practitioners. It may however be well to mention that in 1826, when we had so great an increase of fever patients as to require the opening of an additional hall in San Spirito, there had not been that dry summer which had been met with during the five years preceding. 2. The inhabitants of Rome who had not gone into the country contracted, nevertheless, periodical fevers by remaining during the night in those parts of the city in which, assuredly, the air was cool and moist, but in which there could not be suspected any marsh miasm; so also were those seized with fever who dwelt on rivulets remote from the centre of the city, near gardens, reservoirs of water, and in the centre itself, on the banks of the Tiber. 3. The frequent relapses in those who had suffered from periodical fevers in the city, proceeded not from the convalescent going into a suspected miasmatic spot, but from his leaving the house early in the morning and returning late in the evening, which is equivalent to saying, that he was exposed to a cool and

* Sull' origine delle Febbri periodiche in Roma e sua campagna.—Memoria di GIACOMO FOLCHI, &c.

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moist air. 4. In the dangerous months a fever has often attacked a person who had not been out of the city, but who, from some pressing cause, had been overheated, and who, after being bathed in sweat and exposed to a current of cool air, had his body strongly chilled; so, likewise, he who slept during the night with the window of his room open, became readily subject to the disease. 5. In these dangerous months, if there happened a change in the atmosphere from dry to moist and from hot to cold, and a loss of equilibrium in the electricity of the air, very susceptible persons, such as those troubled with hysteria and hypochondriasis, felt such disturbance through their whole frames and so manifest a coldness, that they imagined themselves to be seized with fever; and at times there ensued in them a degree of heat and alteration of the pulse having all the appearance of a fever of periodicity. 6. I have myself known an individual to be attacked with this kind of fever from having, during the suspected season, fallen asleep near a rivulet: the ground adjoining it was, however, perfectly dry; nor was there any stagnant water in the neighbourhood. 7. Many persons, likewise, are known to me, who have during many years preserved themselves from fever in the worst parts of the country around Rome, by adopting the most rigid caution in retiring within their houses before evening, closing the windows, and warming the rooms; and taking care not to go out in the morning until the sun had been some time above the horizon. 8. During my stay in Terracina, of more than forty days, and at a time when periodical fevers were exceedingly prevalent, I constantly observed that the atmosphere of the Pontine marshes was filled with a dense vesicular vapour shortly after the setting of the sun, and before day-break. 9. Our country people are little or not at all protected against humidity and nocturnal cold, are badly fed, often sleeping exposed to the heavens, with their bodies half covered by tattered garments; very different from the wealthy and noble, who are accustomed to wear woollen clothes, eat flesh meat, take particular care of their skin by the frequent use of baths, and who always retire to their houses towards evening, to wait for supper. 10. Finally, I adduced a negative argument, but yet one which merits to be taken into the account, viz. that neither Carradori nor Brocchi, nor any other chemist or natural philosopher, has been able to discover one atom of the supposed miasm, though they concentrated and examined with the greatest care the vapour in which

it is supposed to exist. This series of facts, sustained by numerous observations, is now adduced with the double view of excluding a belief in marsh miasm, as a material cause of intermittent fevers in the *campagna* around Rome, and of explaining the remote causes of these maladies. To my mind the watery vapour which is constantly given out from a moist soil during the heat of the day, and which, becoming denser at night, descends towards the lower strata of the atmosphere, accompanied with a notable diminution of temperature, is the agent which, in a body predisposed to it, occasions the fever in question; in using the language of pathologists, it ought to be called the occasional cause. It remains for us now to explain how, after this impression has been sufficiently powerful, the fever is developed in the living system, or in other words, what is the cause of this latter. And here I may be allowed to venture my opinion, to which I only attach the weight of an hypothesis; and as such it will be received by my colleagues: nor can we in truth hope for any thing but an hypothesis to explain so very obscure a phenomenon in pathology. Before stating it I must however premise some postulata.

There will not be any great difficulty in conceding to me, that the nervous system is the exciter of animal heat and electricity, since the physiology of the present day considers as unsatisfactory the explanations on this head of Lavoisier, Bichat, Legallois, and Dupuytren. It would be a waste of time to present once more the formidable objections which have been urged against the opinion of Lavoisier that calorification had its seat in the respiratory oven; or adverse to that of Bichat, who supposed that the functions of secretion and nutrition developed animal heat like other chemical operations; or in opposition again to the hypothesis of Legallois and Dupuytren, which supposed that the evolution of caloric in the animal economy was due to the change from red to dark blood. I would say on the other hand, that if we consider the different classes of animals, the different states of life, and certain morbid ones, we shall be led to attribute to the nervous system the production of animal heat. The temperature of the animal is in relation with the greater or less size and expansion of the nervous system, and especially of the cerebro-spinal portion: the heat is sensibly diminished during the sleep of hybernating animals; at times a limb of the body becomes cold, because the nervous influence is suspended in it: cold of some intensity will cause a temporary sus-

pension of the cerebral functions: a constant coldness, sensible to the hand of the physician, accompanies some fevers in which the nervous system is the greatest sufferer, as in the cold fever, and sometimes in the typhus gravior. To these considerations I would add the experiments of BRODIE and CHOSSAT, the first of whom has particularly investigated the influence of the cerebellum in the production of heat; the second that of the cerebellum and the other parts of the nervous system. Having made a section of the spinal marrow of a dog above the origin of the phrenic nerves, so that respiration could be continued, the temperature of the body was in a few hours diminished, and was carried so far as to produce the death of the animal. A cerebral commotion was induced in a large dog, by giving it a violent blow on the vertex, respiration being kept up by insufflation of the lungs: there ensued as before a fatal diminution of temperature. Not dissimilar in result was the trial made by injecting into the jugular vein of another dog a decoction of opium, the narcotic effect of which is strongly exerted on the cerebellum: a thermometer introduced into the anus of this animal gradually fell to 71½° F. at which time death supervened. In regard to the other portions of the nervous system, CHOSSAT found, as in lesions of the cerebellum, that a decrement of temperature followed sections of the medulla spinalis just below the occipital foramen, between the second and third cervical vertebræ, and between the seventh cervical and first dorsal, made on three dogs, respectively, and in which artificial respiration had been kept up. In making the sections lower down in the medulla spinalis, from the first dorsal to the last lumbar, the diminution of temperature was proportionately less rapid. A section of the pneumogastric was also, in two separate experiments, attended by a loss of caloric, less prompt however than in cerebral lesions: and the same may be said of extirpation or contusion of the semilunar ganglion*.

The *second postulatum* which I wish to premise is this: Is it not true, that many natural philosophers of great repute, in directing their attention to the phenomena of caloricity and electricity, and observing that both are often produced together by the same cause, have thought that caloric and electricity is an identical fluid? This question in physics has been fully and zealously discussed by

* Influenza del sistemo nervoso sul calore animale.—Omodei, No. 63, p. 444.

NOBILI, (Bibl. Univ. Fevrier, 1828, p. 218), and I may therefore be excused from entering into particulars: it may not be amiss however to mention, that the voltaic pile reduced by WOLLASTON to one element, acts with efficacy when strongly heated; and is capable on the other hand of burning a platinum wire by means of its electrical current; that a flame placed under bismuth and antimony, copper and zinc, soldered together, developes such electrical virtue as to cause the magnetic needle to deviate from its direction; and that the influx of caloric produces signs of electricity in the condensing electrometer; and so of many other like phenomena. If then there be every reason to believe that caloric and electricity is the same fluid, what I have said above in regard to the faculty of the nervous system to develope heat in the human body, will apply to animal electricity, and in the course of this disquisition I shall speak of one or the other fluid indiscriminately, according to the course of the argument. I have attempted to create a means out of the body, of rendering evident that electricity which is formed to circulate in the nervous system; but my efforts have been fruitless. I decapitated a Guinea pig, and immediately plunged the end of a wire of the galvanimeter of SCHWEIGGER into the white substance, the other into the cortical of the medulla oblongata, and afterwards of the medulla spinalis: the body was still warm, and the pulsations of the heart could be counted; nevertheless the needle of the galvanimeter was not moved from the point to which it had been directed, and yet it slightly oscillated on its axis. Perhaps the repeated touching by the hands and the steel instruments, and perhaps also the flow of blood carried off the little electricity, fugacious in its nature, which I sought for. I propose in a time of greater leisure to repeat the experiment in a different manner, and with more exactness. In the mean time there seems to me to be in the animal frame all the elements necessary for the production and diffusion of electricity, which, as in the fibro-serous membranes, continually moistened, are the conductors of it; so the nervous system in conjunction with the sanguineous is a producer of the kindly fluid which constitutes in us a life independent of the medium in which we live.

The medium by which we are surrounded, according to its state, tends at one time to impart, at another to remove from our body a portion of the thermo-electrical fluid. I ask whether a dry air and a moist air, and a temperature much inferior to that of the body

chill it equally, or one more than the other? and this is my *third postulatum*. If we direct our attention to the experiments of EDWARDS, it will appear that the chilling of the body proceeds in a nearly equal ratio while remaining in dry air (the minor refrigerating property of which is compensated for by greater evaporation) as it does in a moist air. He took some sparrows of a middle age, and inclosed some in receivers filled with dry, and others in receivers filled with moist air; so contriving it that there should be no counteracting circumstance to modify the results. The external temperature during the experiments differed but by a small fraction of a degree, being 74° F. The temperature of the air of the receivers was 70° F. except on one occasion, when it was 72° F. In calculating the degree of refrigeration produced by these two media, Dr E. found it to be 12°.06 F. for the dry air, and 11°.7 F. for the moist air. From the experiments of this physiologist, there would seem then to be very little difference in the loss of the thermo-electrical fluid in a dry air, or in that charged with vapour. Very different results are obtained when the human body is exposed to the two kinds of air: while the cool and dry air produces but a superficial impression, revives the colour of the skin, infuses new vigour into the fibres, and enlivens all the functions; it appears on the contrary, that a cool and moist air causes a sensation of cold so profound as to seem to reach the bones, disposes to paleness, feebleness, tremor, and in fine, operates on us not so much by refrigerating as by enfeebling the function which we possess of generating caloric in our bodies, and resisting the diminution of the external cold. The effects of this air are increased when it impresses frequently the same individual, since we find in general, that the alternations of cooling and heating being repeated on animals, though they regain their customary peculiar temperature, the period which elapses before this restoration becomes each time longer and longer. The effects of a cold moist air are increased also when it operates on individuals who cannot long support a chilling of the body, such are old persons, and those of a thin habit of body. It is a fact tested by experiment that of two individuals of the same species, the temperature of whose body is diminished an equal number of degrees, the younger is the one least suffering, and most promptly restored to health. In fine, overlooking other circumstances, it may be asserted that the effects of a cool moist air are more potent on a man asleep, since sleep is naturally accompanied by a diminution of the

faculty (in a body under its influence) of evolving its own caloric; and in animals called hybernating, when they fall asleep in the summer, the temperature is much diminished, the respiration slackened, and the limbs become torpid; though to a less degree than in spring.

But, however great may be the loss which the animal suffers, there soon succeeds a reaction; and this brings us to the *fourth postulatum*. I may here adduce, as illustration of this principle, the accelerated movements of the heart and arteries, and even fever itself after abundant hemorrhagies; the augmented specific vitality of the stomach, even to the degree of heat and inflammation, after the depressing action of a poison. But not to lose sight of the subject in question, I would say, that in the very state itself of chill, that is in a loss of the thermo-electrical fluid, there have already begun the first movements of reaction in the living body; the pulse is already accelerated, and the respiration more frequent. The reaction is still more evident, when the animal, in being removed from the external medium, passes into another warmer one; then, as the application of the external heat restores to animals their faculty of reproducing internal caloric, then, I say, the movements of the heart and arteries become more hurried, the colour of the face is revived, and there is much more heat developed than is required by the wants of life. Should we, on the other hand, by the application of fresh cold, suppress the first movements of reaction, there would result alarming consequences, if not the death of the individual. Currie has borne testimony to the death of a person subjected to cold affusions in the first stage of intermittent fever. But of the systems of which the human body is composed, which is always the chief agent of that reaction, tending to re-establish the equilibrium of its heat and electricity? Having proved that the nervous system is that which in the state of health excites and maintains the internal caloric, as above shown, what doubt can exist of its being the first cause of reaction after a great chill? Nor in truth do I see how the sanguiferous system, for example, can give the first impulse to reaction without receiving excitement from the nerves; and still less how in extraordinary oscillations the lymphatic or muscular system can come in for any share, without having derived an impulse from the nerves. It is true, indeed, that the nervous system once beginning to act, it soon calls into consent the heart and great vessels; and this accordance of action is so common, that we ob-

serve it in the passions of the mind, in strong sensations from external causes, and in a thousand other circumstances.

Having laid down these premises, I now come to an exposition of my hypothesis on the origin of the intermittent fevers of Rome, and the adjoining country. A person who remains for some time in one of our sickly spots during summer and the first autumnal months, and who, not sufficiently protected from the surrounding air, goes to sleep, or sallies out early in the morning, does so with the almost certain effect of having a periodical fever, either of a benign or malignant character. Our unhealthy situations exhibit in the hot months a difference of temperature between day and night sometimes amounting to 34° F.; added to which, they are overcast during the night with a vesicular vapour, such as that which is raised from low and moist grounds by the sun's rays, and which becomes denser and descends to the earth in the early hours of the morning. That person, therefore, who exposes himself to this medium, and sleeps in it, must necessarily undergo a long and profound refrigeration of the body; in other words, must undergo a great loss of the thermo-electrical fluid, it being in fact the property of cold and moist air to chill the body more than dry air, and still more during sleep, as we have already seen. Even if an individual does not sleep in an unhealthy situation, yet should he expose himself in it about sunrise, he will suffer nearly as great a diminution of temperature, only it will be of shorter duration; for the vesicular vapour at this time, passing into an elastic state by the agency of the sun's rays, acquires greater capacity for retaining the thermo-electrical fluid, and hence abstracts it in larger quantities from the bodies with which it is in contact. This fact is based on the observations of celebrated natural philosophers, such as VOLTA and SAUSSURE. Now if to a great loss of thermo-electrical fluid succeeds a reaction in the body tending to heat it, there will immediately be accelerated circulation and respiration, which gradually increasing will finally amount to a true fever, especially if the individual shall be exposed to artificial heat, and feel the impression of a warmer atmosphere, so that the faculty of producing internal caloric is rendered more active.

It is not now difficult to conceive how, from the above mentioned causes, should arise a periodical fever either mild or malignant. The difference will, in my opinion, depend on several conditions, such as the age, temperament, constitution, kind of life, and prior state of

health of the individual attacked with the disease; but chiefly on the degree of chill and reaction. It is natural that a subject somewhat advanced in life, of a bad temperament and weak constitution, little or badly fed, and who had not before enjoyed the best state of health, should feel more profoundly the impression of the before mentioned causes, and fall into a pernicious or malignant as likely as into a benign intermittent. It is also natural that a longer or greater refrigeration of the body (and this more frequently happens in summer on account of the greater difference of temperature between day and night), by chilling, as it were, the powers of life, should throw the individual into that state of pernicious intermittent, by FRANK called *nervous*, by others *hyposthenic*, and principally consisting in fainting and cold fits, in which, if suitable stimuli are not promptly applied, the faculty of reaction is lost, and with it the vital heat. So, on the other hand, if, through particular predisposition, the reaction is of too exalted a degree, and the blood vessel system, called into consent of action, is powerfully excited, there may ensue one of those pernicious fevers distinguished by distress and oppression of some of the great viscera, and in which safety requires the emission of blood. To my mind, however, the lethargy, the anxiety and pain of the hypochondria which accompany the paroxysm of pernicious lethargic, pneumonic, hepatalgic intermittent fever, are not signs of true inflammation; but rather of an extraordinary fulness of the vessels of the organ produced by a particular mode and manner of reaction. Professor TOMMASINI has already thrown great doubts on the belief in intermittent phlogosis.

But it will be said, that fever is not immediately developed after the noxious action of a cold and moist air, but that a time longer or shorter elapses, after which the paroxysm, beginning with a chill, comes on; and hence it would seem referrible to other causes. While admitting this, however, it cannot be denied that a person who, in the nights of a variable summer season, has slept in the open air of an unhealthy spot, does not feel a general uneasiness throughout his frame, even though he may not be immediately seized with fever; nor is the effect of moisture and cold always the sensation to which we affix this name, but consists in a prostration of strength and feeling of uneasiness, as has been well remarked by EDWARDS in his physiological inquiries. If to this uneasiness succeeds a febrile movement, not immediately, but after the lapse of some hours, ought we not to regard this latter as a vital reaction, tending to re-establish

an equilibrium, and an effect of the above mentioned cause? How often do we not find that pain, terror, and in general all depressing agents, are followed after a certain time by a febrile movement? Shall we therefore say that this latter does not depend on the former, or that it is not a true reaction? As in this reaction the nerves play a primary part, can we wonder that they arouse in the sanguineous and muscular systems convulsive contractions, and hence give rise to that stretching and trembling of the limbs, and the coldness experienced by the patient at the beginning of a paroxysm?

It will be alleged, moreover, that some persons living in sickly countries are not affected with a true fever, though their health becomes gradually deteriorated, and their functions, especially the assimilating ones, are disordered. In these cases I am of opinion, that the external causes of moisture and cold did not operate with sufficient force on the body to elicit in it a febrile reaction; but yet are productive of slight and frequent excitation both of the nervous and vascular systems. This repeated excitation, though below the febrile grade, must, notwithstanding, be injurious to the animal economy; and in an especial manner retard the progress of the circulation in the vessels of the abdomen: hence enlargements of the liver and spleen, serous effusions into the cavities, disordered digestion and chylosis. Let us add that the alternations of a very hot air during the day, with cold and moisture at night, are productive of great derangement of pulmonary and cutaneous transpiration; and that not unfrequently substances unfit for nutriment, and even injurious in their nature, are taken in and affect the digestive mucous surface, which has also a consensus with the skin both by continuity and similarity of structure. These circumstances are to my mind sufficient explanation why persons residing in sickly districts should have their health greatly deteriorated without their undergoing any very manifest febrile excitation.

It now remains for us to explain by my hypothesis two points in pathology and therapeutics of a very obscure nature, viz. the periodical return of the fever, and the specific virtues of the Peruvian bark and its preparations in the cure of the disease. As to the first, we might, with many, refer it to the force of habit, and say that the animal movements, whether healthy or morbid, once excited, readily recur, and that with a certain degree of regularity in regard to time and power which [illegible] titute the period. But

how, by this process of reasoning, can we give an account of the second and third febrile paroxysms before the pretended habit has been established in the diseased body? How account for the sponneous cessation of an intermittent fever in the spring? And to what, in fine, is this habit of morbid actions reduced, if it be not founded on a physical reason, and in the case before us on a predisposition left by the last paroxysm? Admitting then, that in order to explain, after a sound theory, the periodical return of a fever, we must seek in the first paroxysm the reason of the second, in the second that of the third, and so on, I am of opinion that the cause is in the alternate loss and reproduction of the thermo-electrical fluid. We have shown at the beginning that the first paroxysm is occasioned by moist and cold air, and that it is a reaction of the animal frame to recover its lost caloric and electricity. This paroxysm terminates and is resolved by a flow of sweat more or less copious. Who does not see that this same sweat, or rather the moistening of the skin, by causing a fresh loss of the thermo-electrical fluid, is the most probable cause of the following paroxysm? The skin, which is naturally a non-conductor, and may be regarded as the bark of the human body, destined to preserve the imponderable substances, once moistened becomes a conductor, and opening a free passage to the thermo-electrical fluid, gives rise to a second reaction, or in other words, to a second febrile paroxysm. I discover a strong support to my explanation in the following facts: 1. The heat developed in fever diminishes in proportion as the sweat flows and removes the delirium of the patient caused by the excessive excitement. 2. During the sweating stage the patient feels slight rigors which announce the loss of the thermo-electrical fluid, and he is often so far deceived as to believe that the fever, before entirely leaving him, has made a slight fresh attack. 3. Even in the period of the apyrexia, the skin continues to be soft, and at times moist and cool; and it is not uncommon for us to observe, that the day in which there is an absence of a paroxysm the moisture of the skin is greater than common. 4. The more abundant and prolonged the sweat at the termination of the fever, the more intense is the following paroxysm: an example of this fact is furnished in the malignant sweating fever, the subjects of which being bathed in a long and profuse sweat are always rendered thereby more prone to fresh and more violent attacks. 5. If the hot be not followed by the sweating stage the fever loses its character of intermittent;

since in the sweat being absent there is a failure of the condition on which the preceding paroxysm should be resolved, and the following one be brought on. 6. Finally, the night preceding the next paroxysm of fever is always past in restlessness, which is more felt as the body is already predisposed to a second reaction and a second febrile excitation. It seems to me then sufficiently probable that the moisture of the skin on the decline of the fever, and the consequent dispersion of the animal thermo-electrical fluid is the cause of a fresh reaction—a fresh paroxysm; since the cause of the first was the subtraction of this same fluid by the moist and cold medium in which the body had been placed. If vernal intermittents are sometimes spontaneously cured, we must also admit that they are slight; and that the sweat of the first paroxysm is such as to dissipate at once the excess of the above fluid, and to re-establish a salutary equilibrium in the body.

As to the efficacy of the Peruvian bark in removing a periodical fever, which is the last point on which I shall touch, I would first state that we can only avail of the active portion of the bark or the quinia, which in the best species amounts to ten grains in the ounce: in fact, with twenty grains of the sulphate, and still smaller doses of the pure quinia, we often succeed in preventing a return of the febrile paroxysm. Now in reference to the medicines which exert, in the smallest doses, most powerful effects, the idea of professor Monichini seems to me a happy one. When he speaks of the eminently purgative virtues of the oil of the croton tiglium (*Giorn. Arcad. Agosto* 1824, *p.* 129), he supposes that medicines thus active operate by an electrical relation which they have with certain organs of the human body. It now remains for us to determine, whether the quinia has a suitable electrical relation to the nervous system, which is the one chiefly brought into action in periodical fevers. We have already in its proper place stated that the nervous system produces reaction, and takes on morbid excitement because it has lost the thermo-electrical fluid either by the application of a cold and moist air, or by the sweat of the preceding paroxysm: which is equivalent to saying that the nervous system, prior to the coming on of the attack, is in a state of negative electricity. If then we can prove that the quinia has naturally the positive electricity, and that the sulphate of quinia in being dissolved in the juices of the stomach imparts this kind of electricity, we shall have exhibited the electrical relation between

the medicine and the organic system on which it makes its impression, and furnished a tolerably plausible explanation of its activity being so incommensurate with the dose in which it is given. The properties of the quinia, similar to the alkalies, made me suppose in advance that it was to be classed among the number of the positively electrical substances: but of this I was determined to assure myself, with the aid of the Voltaic pile. Putting therefore in a tube, turned to an angle, a watery solution of the sulphate of quinia, and introducing the metallic wires of the apparatus into the corresponding portions of the tube, the salt soon became visible, and the quinia went to the negative pole, round which it was collected in small crystals. As to the sulphate, which is often employed instead of the simple quinia, I wished to know, whether, by being dissolved in or mixed with an acid, it would manifest electrical signs, and, bearing in mind the observations of PROUT and CHILDREN, from which it would seem that the acid predominating in the stomach is the hydrochloric, I made use of it, and in another experiment of the lactic acid. At the moment of the solution of the sulphate in one of these acids I immersed into the liquid the end of a metallic rod connected with the plate of the condenser, but saw no signs of electricity in the straw electrometer. I changed the wire by substituting for one of brass others of platinum and copper, of various sizes, and also a small cone of carbon, but still without my being able to discover any signs of electricity. A like result followed the experiment when the solution of the sulphate in the acid was put into a platinum cup, and placed on the plate of the electrometrical condenser, and when both the wires of the duplicator of SCHWEIGGER were immersed in the liquid contained in a crystal vessel. Remembering the observation of BECQUEREL, that in the solution of salts in water there is a weak electrical current, either because salts are poor conductors or from some other cause (*Journal de Chimie et de Physique, Decemb.* 1823, *p.* 351), I fastened to the wire of the duplicator two small brass plates, the better to collect the electricity which might perchance be now extricated. Accordingly I immersed at the same time the two plates in the diluted hydro-chloric acid, while dissolving in it the sulphate of quinia, and I obtained a divergescence in the needle of the duplicator of five or six degrees towards the west, being the same direction in which the needle turns when zinc and copper are attached to the wires and immersed in the acid mixture. The action of

the hydro-chloric acid on both the plates being equal, it is fair to presume that the weak electrical current in this last experiment originated from the same cause with that noted by BECQUEREL in the solution of neutral salts in water. If then the quinia possesses naturally the electro-positive state; if the sulphate of this base on solution in an acid gives a current, weak indeed, but evident by the galvanimeter, I would say anew, that their electrical power seems in perfect relation with the nervous system prior to the attack of the febrile paroxysm. The nervous centres are moved to re-action in order to repair the loss of the thermo-electrical fluid: the medicine when administered directs in preference its power on the nervous fibre, effects a re-establishment of equilibrium, and prevents, in consequence, that reaction which would eventually accomplish the same purpose. However much I may be seduced by this explanation of the efficacy of the bark against periodical fevers, it is still open to many objections, and regarded by me as hypothetical. When compared, however, with the explanations given by others, I find new arguments in its favour. To say that the bark cures an intermittent fever by stimulating the solids of our body is the same thing as uttering a general proposition which does not set out from a principle, and gives no explanation of the specific virtue of the medicine; still worse is it to aver that the bark cures by *counterstimulating* and depressing the vital powers; and more faulty again were we to attribute its virtues to a repair of the organic compound, not knowing nor seeing any possibility of discovering in what consists the organic compound in a periodical fever. I need not mention here the hypothesis which supposes that the Peruvian bark operates by neutralizing, destroying, and driving out the paludal miasm, introduced into the body of the sick person, and regarded as the material cause of the intermittent: these, and other like conceits are, to use the language of professor MONICHINI, *either obscure and unintelligible, or inadmissible by the errors and contradictions which they involve* (*loc. cit.*). My hypothesis seems free not only from these errors and contradictions, but if I do not mistake, it furnishes aid in the explanation of some facts relating to the cure of periodical fevers. I will take the liberty of mentioning some of these. We can, for example, explain, 1. Why the bark and its preparations are not adapted to the hot stage of an intermittent, and are only admissible towards its decline. 2. Why it does not suit, and will not succeed in preventing the fit when given [illegible] ort time before

its accession, while the reaction is on the point of coming on. 3. Why the bark is inefficacious as well as injurious in a fever of a continued nature, or in an intermittent approaching to a continued type, in which the paroxysms are not sufficiently distinct and separated, nor terminated by sweat. And 4. Why so many distinguished practitioners, such as RIVERIUS, ETMULLER, WEDEL, LIND, ODIER, and many others, have found opium so useful in rebellious intermittents: now the active principle of this drug is the morphia, which is of an electro-positive nature, and hence has a resemblance to the quinia*. We also see why the faba St Ignatii, containing strychnia, has been advantageously employed in the cure of these fevers. 5. Why the best means of preventing a relapse is to administer between the paroxysms large and frequent doses of the bark, according to the directions of RUBINI in his well known essay on this subject†. 6. How a profound passion of the mind, a powerful and sudden impression, has sometimes arrested the approaching paroxysm of an intermittent fever, examples of which are given in the ancient writers and in the recent clinical annals. But I will not wander too far into the region of conjecture, and will leave to the reader the liberty of suggesting applications which he can do in his own mind more effectually than I can.

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* See Delect. Opusc. J. Frank, Vol. I. p. 203. Joann. Jacob Schaertlich. Dissert. *De usu opii in febribus intermittentibus.*

† *Sopra la maniera atta ad impedire la recidiva nelle febbre periodiche, &c.* A critical analysis of this work by the translator of this paper will be found in the sixth volume of Dr CHAPMAN's Medical and Physical Journal.

ARTICLE IV.—*Case of Obstinate Constipation of the Bowels successfully treated. By* THOMAS SYDENHAM BRYANT, *Surgeon of the U. States Army at Cantonment Leavenworth.*

Some days previous to the 20th of April 1828, a soldier, named Deurond, applied to me for a dose of sulphate of soda, in consequence (as he said) of being much bound in his bowels. He did not come on the sick report until the morning of the 22d, when he informed me that his bowels were still costive, and that he had a dull heavy pain about the loins, which extended across the abdomen, in the direction of the umbilicus. I directed him to take twenty grains of calomel with fifteen grains of jalap, which produced a very trifling motion; and upon visiting him in the evening prescribed an enema of ol. ricini, and as the pain was still more increased, bled him largely, and applied a blister over the abdomen. The enema had not the slightest effect; the blister drew finely: but upon seeing him on the morning of the 23d, I found the symptoms not at all abated. I therefore directed an enema of two drachms of socotrine aloes, and administered twenty grains of calomel with twenty-five grains of jalap by the mouth. After waiting some hours and finding no abatement of the symptoms above mentioned, I ordered an enema of forty grains of tartrate of antimony, which was exhibited with the common enema syringe, to which was attached a long elastic tube, so as to throw it some distance into the intestines: this was followed in a few hours after by one of an infusion of tobacco (a drachm to a pint of boiling water) by the same apparatus; my object being to reduce the muscular contraction, on which I believed the disease to depend. After the last mentioned remedy, he complained of considerable sickness at the stomach, together with giddiness, but it had no effect upon the bowels whatever. The enema of tobacco was repeated, together with thirty grains of calomel by the mouth, without the desired effect, although the dose of calomel was repeated.

Upon the following day (the 24th) he informed me that no operation had yet been had on his bowels; the pain was still unabated, and he had a dry furred tongue. Sixty grains of tartrate of antimony were directed to be given in enema, and half a drachm of argentum vivum to be given by the mouth, which it was found necessary to repeat, but without the least effect.

I began at last almost to despair of affording any relief, but I determined to persevere until I should be convinced that all means were unavailing. I therefore, as the pulse seemed imperatively to demand it, bled him sixteen ounces, and placed him in a warm bath, in which he was kept until syncope was induced: a large blister, so as to cover his whole abdomen, was then applied, and the enema of tobacco once more exhibited. Recourse was again had to the warm bath and injection, but without the slightest effect, either in mitigating the pain or causing a relaxation of the muscular system; for after the first enema (of tobacco) no sickness or any other effects usual after the administration of that article were produced.

From the ill success which had attended the administration of the foregoing remedies, I was at a loss how to proceed. The idea struck me that it might depend upon spasm of the bowels, and I therefore adapted my remedies accordingly. I commenced in the evening with giving him an enema of half an ounce of assafœtida, with two table spoonfuls of sulphuric ether, (still employing the apparatus before mentioned) which produced a slight movement of the bowels: half an ounce of the spirit of turpentine and half an ounce of olive oil were then given by the mouth; and I left him for the night, directing the attendants to repeat the injection every two hours until day.

The next day (the 25th) I found that, notwithstanding the enemata were continued through the night, as I had directed, still no discharge from the bowels was had. They were ordered to be repeated hourly. His pulse was slow and languid, and his tongue encrusted with a brown or black fur. About noon I again saw him, and was much gratified to find that he had discharged a considerable quantity of a dark jelly like substance, very much resembling tar. This occurred several times until he had voided about four pints, when the fæces began to assume a more natural appearance. I directed the enemata to be continued, though at longer intervals, which was attended with very good effects. In the mean time his mouth swelled, and a violent salivation supervened, the effect, no doubt, of the mercury he had previously taken. On the 27th I again saw him, and directed the enemata to be discontinued, and an ounce of ol. ricini given by the mouth, which produced a most desirable effect.

After this time he continued to convalesce rapidly; his bowels resumed their ordinary functions; and he is now one of the heartiest men at the Port.

The above is given without any remarks: its being a case of great practical importance is the only reason of my laying it before the profession.

I should have mentioned that my patient, according to his own account, had had no discharge from his bowels for ten days previous to his applying to me: but as it gave him no uneasiness he neglected it until the time mentioned.

ARTICLE V.—*On the Employment of Cotton as a Dressing for Blisters. By* A. P. MERRILL, M. D. *of Natchez, Mississippi.*

Natchez, January 23d, 1829.

Dear Sir,

I have long had it in contemplation to communicate for the North American Medical and Surgical Journal a new mode of dressing blisters, which, so far as I know, has its origin with me.

Blisters that are not required to be kept discharging for any length of time, are readily healed by the application of finely carded cotton, as in cases of vesication from burns. The cotton should be applied as soon as the vesicating plaster is removed, half an inch or more in thickness, and sufficiently large to ensure the complete absorption of the discharge. In two days, under ordinary circumstances, a new cuticle will be formed and the blister cured. This dressing gives no pain, and may be adopted with particular advantage in dressing blisters upon the nucha, when the patient is confined in bed, and also for persons who are not *confined* by indisposition; as blistered surfaces, when dressed in this manner, give so little inconvenience as not to interfere with the motions of the body in common exercise.

Should you consider this piece of *medical intelligence* worth publicity, please to notice it as such.

A. P. MERRILL.

Dr CH. D. MEIGS.

ARTICLE VI.—*Cases illustrative of the Proper Use of Mercury in Venereal Complaints.* By WILLIAM DARRACH, M.D.

Read before the Kappa Lambda Society.

The object of this paper is to show that the mercurial practice in syphilis should not be abandoned; although it has been both uselessly and injuriously employed. This will be attempted by presenting, in addition to three cases, a tabular view of the practice of the London Locke Hospital during the winter of 1820, as drawn from notes of cases taken by me while one of the visiting students of that institution.

Let us previously present a short historical sketch of the vicissitudes of mercurial practice in the disease in question; that we may discern to what extreme we are now tending, and the consequences.

Mercury was used in syphilis as early as A.D. 1498. The introduction of it met with strong opposition from the public and also from the mass of medical practitioners. Success by degrees removed prejudice, and a mercurial treatment in venereal cases became general. This general use was a precursor of its rejection by the profession. Thoughtless, fool hardy, routine practice multiplied cases of failure, aggravation, and mortality. Daring and destructive empyricism, on the one hand, and a too timid practice of intelligent physicians, on the other, abolished the use of mercury. Every where, and at all times, cases presented themselves which exhibited the compound evils of syphilis and mercury; shunned by physicians who confessed openly their ignorance of the nature of the complaint and the remedy. How evidently it now appears, that the remedy was near them, and only hidden by the fruits of heroic practice. Mercury became reprobated. The desideratum was what could cure syphilis *without danger*. Guaiacum was introduced in 1508, by ULRICH DE HUTTEN, physician of Charles V. of Spain. He published that three thousand desperate cases were perfectly cured by the decoction, and that the constitution was re-established. One of these cases occurred in his own person. He had suffered nine years with intolerable pains, ulcers, caries, exostosis, and extreme emaciation of body; had used eleven courses of mercurial frictions: and eventually was perfectly cured

by the guaiacum. Universal reception was soon given to the article as both *curative* and *safe*. Indiscriminate practice followed; and the new remedy with the more frightful forms of the syphilitico-mercurial disease after a while ceased to attract attention. In 1535 the smilex aspera was introduced by VASALIUS. FALLOPIUS destroyed its popularity. Sarsaparilla was next extolled, then the sassafras, and subsequently, a compound decoction of the woods. From the use of this physicians retrograded to the methodic practice.

JOHN HUNTER restored the mercurial treatment. As before, so now a second time, it became universal; its universality was followed by abuse. The suburbs of cities, and army, navy, and city hospitals, were again filled with complicated varieties of aggravated syphilis. Loss of confidence in mercury reappeared. Publications on the abuse of it, on mercurial disease, on pseudo-syphilis, &c. together with placards at the corner of the street, headed 'venereal without mercury,' became common. And now, if the profession were examined and cross examined before a civil court, as to the merits of the mercurial and non-mercurial practice, the latter perhaps would gain the cause. The subjoined report of the London Locke Hospital is presented to show that mercury, though unnecessary in a considerable number of local complaints on the organs of generation called venereal, and positively harmful in many serious cases, if used without much care, is, notwithstanding, the remedy for unmodified syphilis; and to be regarded not only as useful but also as indispensable.

TABULAR VIEWS OF THE PRACTICE OF THE LONDON LOCKE HOSPITAL DURING THE WINTER OF 1820, AS DRAWN FROM NOTES OF CASES.

TABLE, No. I.

CASES IN WHICH MERCURY WAS NOT CONSIDERED NECESSARY

Complaint.	*Cause.*	*Treatment.*	*Result.*
Excoriation of the glans penis	Filth	Simple ablutions	Well.
The same, with condylomata and gonorrhea	Connection	Ung. zinci, &c.	Well.
Small superficial ulcers of the glans and scrotum	Filth	Purging and ablutions	Well.
The same of the prepuce, with bubo	Irritated herpes	Cerat. calaminaris	Well.
A case of large ulcer in each groin; one of which contained an enlarged and exposed inguinal gland	Chilblains	Rest and antiphlogistics	Well.
Bubo	Irritated hæmorrhoids	Rest and antiphlogistics	Well.
The same, without previous sore or discharge	Unknown	Cerat. sapon. and pill. ferri cum myrrh.	Well.
Ulcer of the penis consequent to sloughing of the glans penis from paraphymosis	Unknown	Simple dressings	Well.
Sloughing ulcer	Unknown	Black wash and decoc. sarsap.	Well.
A deep ulcer in the groin recurring after an irregular use of mercury	Unknown	Decoc. sarsap.	Well.
Small ulcers on the end of the glans penis remaining a length of time after a profuse use of mercury	Debility	General diet & simple dressings	Well.
Large ulcers on the right labium pudendi, with healthy granulations	Connection	Simple dressings and rest	Well.
Disease of the frenum prepucii	Unknown	Dec. cincho. ℔ i. sulp. acid dilut. ʒi. M. ʒii. q. t. d. and as a wash, aq. calcis pt. i. vin. opii ʒii. M.	Well.
Chops and ulcers on the lips and in the mouth	Mercury	Ung. zinci.	Well.

TABLE I. CONTINUED.

Complaint.	*Cause.*	*Treatment.*	*Result.*
Warts on the penis	Connection	Strong Goulard's oint.	Well.
Fissures	Unknown	Saturn. lot. sol. nit. arg. and ung. zinci	Well.
Enlargement of metatarsal bones	Unknown	Guaiacum	Well.
Painful affection of the throat	Unknown	Dover's powder	Well.
Vascular swellings on the cicatrices of rupea	Unknown	Diet	Well.
Leprous eruptions extending into the meatus audit. ext. affecting the hearing	Unknown	Dulcamara	Well.

TABLE, No. II.

CASES IN WHICH THE FREE USE OF MERCURY HAS DONE HARM.

Ulcer on the penis; the system quickly affected by the oxymuriate of mercury; tonsils swollen, a sloughing ulcer appeared in the throat; patient became weak and emaciated	Connection	Mercury omitted, ext. and decoc. of sarsap. and cordial diet substituted	Well.
The same, aggravated by mercury	Connection	Mercury omitted, acids and purgatives used	Well.
Enlarged gland in the groin, sloughing under the use of mercury	Unknown	Mercury omitted, opium used	Well.
A large ulcer on the labium pudendi, with spots of healthy granulations	Unknown	Mercury omitted, carrot poultice used	Well.
Extensive ulcer on the elbow, spreading under the application of the mercurial ointment	Unknown	Merc. oint. omitted, and Turner's cerate used	Well.
Ulcer in the throat, patient salivated by ʒv. of merc. oint. ulcer healed, but the individual left in a deplorable condition	Connection	Unknown	Unknown.

TABLE II. CONTINUED.

Complaint.	*Cause.*	*Treatment.*	*Result.*
Rupea: i. e. an ulcerative cutaneous eruption, becoming a phagedænic ulceration of the derm; a secondary form of syphilis in persons whose constitutions have been previously injured by mercury, and in which mercury, if not used sparingly, does harm, viz.			
1. A case of rupea, patient profusely salivated, causing an extensive foul ulceration of the left palate, tonsil, pharynx, and glottis, followed with pain in the limbs	Connection	Mercury omitted, cincho. ℥iv. steam of conium maculat. leeches ii. to throat, opii gr. ii. o. n. . .	Well.
2. A case of rupea, ℈ss. merc. oint. o. n. Ulcerations continued . .	Connection	Unknown . . .	Unknown.
3. A case of rupea: mercury cautiously used, quickly salivated; patient returned with swellings on the cicatrices	Connection	Unknown . . .	Unknown.
4. Case of rupea salivated by ℈iv. merc. oint.: the constitution impaired by the previous use of mercury	Connection	Unknown . . .	Unknown.
5. Case of rupea; patient has frequently taken mercury; constitution now quickly affected by a very small quantity	Connection	Unknown . . .	Unknown.
6. A case of rupea; patient has suffered four salivations, and now affected quickly by a small quantity	Connection	Unknown . . .	Unknown.
7. A case of rupea; the ulcers filling and healing in the centre and spreading at the edges, surrounded by an areola; appeared four months after profuse salivation, of eight weeks continuance, effected uselessly to cure two ulcers and bubo	Connection	Brown ointment, Lisbon diet drink, lb. i. ext. sarsap. ʒi. M. o. d. . .	Well.
8. A case of rupea, and swelling of the glands of the neck appearing after a profuse use of mercury: there exists also a small ulcer on the end of the glans-penis	Connection	Tinct. cinch. ℥i. and oxymuriate merc. grs. viii. .	Well.
A case in which mercury quickly acted on the system, followed by sloughing in the throat, prostration, and death	Connection	Mercury . . .	Death.

TABLE, No. III.

CASES IN WHICH MERCURY WAS USEFUL AND NECESSARY.

Complaint.	*Cause.*	*Treatment.*	*Result.*
Painful sloughing ulcer of the penis continuing until the mouth was slightly affected with mercury. N.B. The mercurial action was neither sudden nor violent. The mercury after a few days produced a slight effect on the mouth, which was sustained without violence. The pain which might have done mischief obviated by opium . . .	Connection	Mercury in connection with opium and sarsaparilla .	Well.
Sloughing ulcer without much pain	Connection	Mercury . . .	Well.
Foul spreading ulcer on the glans penis. This ulcer had a dry blackish slough at the edges, and a whitish adherent sloughy matter on the surface. When the mouth became affected by mercury the ulcer became clean and healthy. The bowels becoming disordered and the constitution irritated, the sore again ulcerated. Mercury omitted, opium and rhubarb administered, bowel complaint ceased, and the ulcer resumed its healthy character and has healed	Connection	Mercury, then opium and rhubarb pill . . .	Well.
'ainful foul spreading ulcer with condylomata. Opiate poultice to the ulcer until the slough separated, with moderate and continued mercurial action and mercurial ointment to effect a desiccation of the condylomata terminated this case favourably	Connection	Mercury, opiate poultice, and merc. oint. . .	Well.
Foul spreading ulcer of the prepuce. This part was almost destroyed. Under the mercurial, in connection with antiphlogistic and soothing treatment, the ulcer assumed a florid surface, without induration, and healed	Connection	V. S. ℥viii. Haust. senna, hemlock poultice, and merc. oint. ʒi. o. n. . .	Well.
Foul spreading ulcer. After forty days treatment the ulcer healed .	Connection	Calomel pill gr. i. per diem, ʒi. merc. oint. q. d. .	Well.
Œdematous induration of the prepuce. An ulcer previously existed which skinned without the use of mercury. The place of this ulcer continued to be surrounded with a cartilaginous hardness, and soon became united with an œdema of the entire prepuce, followed by bubo, the skin over			

TABLE III. CONTINUED.

Complaint.	*Cause.*	*Treatment.*	*Result.*
which ulcerated and exposed a protruding gland, and subsequently by a papillary eruption over the whole surface of the body. The mercurial treatment removed the induration, œdema, bubo, and eruption . .	Connection	Pulv. ant. gr. ii. common poultice, merc. oint. ʒi. o. n.	Well.
Induration about healed ulcer of the prepuce without œdema, followed by bubo and eruption	Connection	Mercury . . .	Well.
Induration remaining after an ulcer, having all the peculiar marks of Hunterian chancre, had skinned over, but not connected with bubo or secondary symptoms. This case was, nevertheless, treated at the Locke with mercury, which removed the induration: the case was then pronounced cured	Connection	Mercury . . .	Well.
Induration without œdema about healed ulcer on the internal surface of the prepuce, in connection with bubo and eruption . . .	Connection	Mercury . . .	Well.
Induration about healed ulcers with papillary eruption . . .	Connection	Mercury . . .	Well.
Ulceration supervening upon an indurated cicatrix . . .	Connection	Mercury . . .	Well.
Ulcer with induration on the nympha	Connection	Mercury . . .	Well.
Desquamating tubercular eruption on an infant. It appeared four weeks and four days after birth; first on the face and then over the body. The mother, six weeks before delivery, was discharged cured of nodes, &c. The eruption on the child disappeared under the use of mercury .	Connection	Hyd. cum creta. grs. v. o. n. .	Well.

The first table shows that mercury was not used in excoriations of the glans penis with or without gonorrhea and condylomata; in small superficial ulcers on the glans and strotum; similar ulcers with bubo; large inguinal ulcers; bubo without previous sore or urethral discharge; ulcer of the penis consequent to sloughing of the glans by paraphymosis; sloughing ulcers; deep inguinal ulcers recurring after an irregular use of mercury; small ulcers remaining a length of time after a profuse use of mercury; large ulcers with healthy granulations; diseased frenum; chops and ulcers on the lips and in the mouth; warts on the penis; fissures; enlargement of the metatarsal bones; painful affection of the throat; vascular swellings on the cicatrices of rupea; and leprous eruptions extending into the meatus externus, and affecting the hearing.

These cases, admitted into an institution devoted exclusively to the venereal disease, and which were very numerous, received only general practice: viz. rest, position, diet, cleanliness, bleeding, purging, preparations of zinc, lead, nitr. silver, sulp. acid, blue and yellow wash, cerat. sapon. and calaminaris; decoc. sarsap., guaiac., dulcam., bark, iron, myrrh, &c.

The second table shows that mercury is a doubtful remedy in constitutions broken by previous salivations, acting quickly on such in small quantity causing profuse salivations, prostration of muscular power, a relaxed state of the body generally, rheumatism, pains, and a tendency to sloughing and phagedænic ulcerations.

The third table shows that mercury is useful in cases of cartilaginous indurations left about venereal ulcers which have skinned; in ædematous thickening of the prepuce; ulcers having a dry black slough at the edges and a whitish adherent smooth slough on the surface; ulcers supervening on a hardened cicatrix; ulcers with induration remaining after a sloughing off of the glans penis, caused by paraphymosis; desquamating tubercular eruptions; papillary eruption, united with a hardness about a healed primary ulcer.

To the cases derived from the London Locke Hospital I would add short notes of three occurring in Philadelphia, in which *mercury was indispensable.*

A case of chancre and gonorrhea, without bubo, in an irritable sanguineous constitution; followed in six weeks by an ulcer in the throat, and soon after by eruptions. The ulcers on the glans penis and in the throat were excavated, indurated, and covered with an adherent slough, and the eruption presented a desquamating enlarging copper

coloured blotch. This case occurred in 1826, in my private practice. The non-mercurial practice was employed six and a half weeks. The ulcer on the penis healed, and medical attendance was discontinued. The patient returned a few weeks after, having had no connection, with the sore on the glans in a state of ulceration and slough. Soon after an ulcer in the throat, and the copper coloured eruption appeared. Submitting my judgment yet to the prevailing opinion, I resumed the non-mercurial practice. The disease advanced. The mercurial treatment was then adopted, and the patient within two weeks was well. The gentleman, nearly two years subsequently, has been under my observation, and without any recurrence of the complaint.

In the year 1827 I attended a female in this city having extensive phagedænic ulcers of the lower extremity, which had existed more than three months. The aspect was venereal. The non-mercurial practice was faithfully employed, and with success so far as to heal the ulcers for a short time. These however resumed an ulcerative state, and additional ulcers appeared; showing the treatment to be only palliative. The mercurial practice was then adopted, and in a short time every symptom of the case disappeared. I saw this patient in Oct. 1828. She has had no recurrence.

A third case in which mercury was demanded, and without which the cure could not have been expected, happened in the venereal wards of the Philadelphia Alms House, under my care, as a resident student. There was an alternate sloughing and hemorrhage of the penis. Two sloughs and intermediate successive hemorrhages had taken place under the non-mercurial practice. A third slough was forming when a mercurial treatment was commenced. The mercury no sooner affected the gums, than the penis ceased its sloughings and hemorrrhage, and permanently healed. This last case is one, of several in the venereal ward, intentionally subjected to the non-mercurial and mercurial practice which agitated and divided the medical public during the years 1818 and 1819, and subsequently.

ARTICLE VII.—*Cases of Peritonitis, with Remarks. By* HUGH L. HODGE, M.D. *One of the Physicians of the Alms-House Infirmary.*

Morbid anatomy has greatly illustrated pathology. It has several times brought to light extensive consequences of a disease, whose existence even had not been previously suspected, and has often demonstrated the frequency of a complaint which had been thought very rare. Peritonitis has been detected in many cases by the knife of the anatomist, where its occurrence had escaped the suspicions of the mere practitioner, and is now therefore regarded as a more frequent complaint than had hitherto been supposed. Many individuals have no doubt perished from this and other inflammatory affections, whose death has been attributed to *debility*.

These errors arise from an imperfect diagnosis. There are no symptoms peculiar to either acute or chronic inflammation of the peritoneum, and as the physician must form his opinion from the group of symptoms presented, so he is liable to be deceived even in the acute forms of the affection. Thus, Dr CHAPMAN has informed me that two of our most observant and experienced physicians for a long time attended a lad for peritoneal inflammation, whose body after death presented no evidences of such an affection; the pleura and lungs having been the seat of irritation and disease. I have met with several severe cases of apparent peritonitis, with swelling, tension and pain of the abdomen, decubitus on the back, dread of the least pressure, even from the bed clothes, which proved to be a rheumatic affection of the integuments. On the contrary, when peritonitis has actually existed, the symptoms have sometimes been so obscure or complicated, as to cause it to be mistaken for colic, diarrhea, dysentery, enteritis, &c. In chronic peritonitis the signs are still more deceptive. I have been called in consultation by a respectable physician to a case of this character, which had been for months treated as ascites; and in this and in many other cases dissection has revealed the most extensive inflammation of the peritoneum, with sero-purulent effusions, and universal adhesion of opposing surfaces where no suspicion of the disease had existed during life. The reverse I have also found to be true, that the practitioner who, during life, has suspected from the peculiar combination of symptoms, a chronic inflammation of the abdominal

cavity, has in vain searched for the consequences of such inflammation after death. "A very obscure variety of peritonitis is one which is only indicated by a tumefaction of the abdomen, joined to habitual constipation and to sensibility without fluctuation. A more obscure degree is that in which there is swelling, with only occasional constipation: and finally, peritonitis has been announced merely by a simple tumefaction [ballonement] of the belly*." It is needless to observe how wholly insufficient are such symptoms to identify the nature or seat of an abdominal disease.

There is still another source of deception respecting the diagnosis of peritonitis, arising from its not unfrequent complication with inflammation of the mucous membrane of the bowels, particularly of the large intestines. At our infirmary I have met with several cases in which the acute form of peritonitis has suddenly supervened on chronic inflammation and ulceration of the intestines. Such cases are exceedingly distressing from the agony to which the patient has been usually subjected, and proving speedily fatal, have afforded the opportunity by dissection for understanding the true condition of the tissues involved. In other instances the phlogosis of the serous membrane has been the primary disease, while the affection of the mucous tissue has accidentally supervened. But in *chronic* affections of these membranes, whether resulting from a common cause or as consequents the one of the other, I should say, from the observations I have made, that the symptoms of enteritic disease are alone prominent; those of the peritoneal affection seldom attract attention, while the former is comparatively a manageable disease, and the latter in its confirmed state is almost incurable. "Peritonitis, whether acute or chronic, particularly the latter, is of all complaints the most fatal"†. In treating therefore abdominal inflammations, it becomes necessary to ascertain if possible all the tissues which are involved; for it may happen, as will be presently exemplified, that the inflammation of one tissue may be subdued, while that of another remaining may destroy the patient. If the diagnosis be difficult, and the disease usually fatal, greater attention to minutiæ is required, that by an early detection the proper time for the successful employment of our powerful the-

* Dict. abrigé des Sciences Médicales.—Art. Peritonite, p. 467.
† Op. cit., p. 468.

rapeutical agents may not be irremediably lost. Inflammation should be considered as a curable disease, and however difficult its management may be rendered from the circumstances of the case, the scientific physician should not despair in his attempts to discover its insidious approaches or to arrest its progress.

In confirmation of some of these remarks, I shall adduce two cases very analogous to each other; one of which I have the pleasure of presenting in detail; the account having been drawn up by Dr Nott, house physician to the infirmary during my superintendence, from notes taken at the bed side of our patient. One or both cases would appear to confirm some important facts in the history of peritonitis, and to afford matter for reflection.

1. That peritoneal inflammation may exist unsuspected: there is reason to believe, that in both the following cases, this inflammation had preceded the mucous affection, which last first induced the patients to apply for relief.

2. That severe and dangerous inflammation in the mucous and serous tissues of the intestines may co-exist.

3. That enteritic tympanitis is intimately associated with, if not a necessary attendant on, peritonitis; it forms a very important diagnostic mark.

4. That suppuration may occur on a serous surface without ulceration; the pus having a "laudable" character.

5. That the pus may in these serous tissues be circumscribed by adhesions, and the abscess thus formed may, as in ordinary cases, advance by progressive absorption to the surface of the body or open into an adjoining intestine.

6. That ulceration may commence originally in a serous tissue; a point doubted by some pathologists.

7. That the peritoneal inflammation may continue its ravages while the mucous inflammation may be arrested or even subdued; and this without any very positive indications.

8. That the sympathies are so little excited in chronic peritonitis, that the inflammation may pass through its different stages, so that gangrene may result before the patient is destroyed.

9. That in a therapeutical point of view, the local application of cold promises to be useful as a palliative, if not as a permanent remedy. No measure was effectual in relieving the pain in Graham's case until cold was resorted to.

Case 1st was that of a mulatto man, about thirty years of age, of a delicate constitution. He attributed his illness to exposure to wet and cold; and some days after the commencement of his complaint was brought to the infirmary. He then complained of the usual symptoms of dysentery. His abdomen being however enlarged [tympanitic] and painful especially on pressure, the patient was treated by means of cathartics, anodynes, and demulcents; the symptoms greatly ameliorated, and he appeared convalescent. In this situation, contrary to advice, he left the infirmary and returned to his usual mode of living. He however was, in a few days, re-admitted into the institution, and again treated as suffering from dysentery. He complained of severe griping pains, irritation of the rectum, tenesmus, with frequent inclination to stool. The discharges per rectum were however peculiar; presenting the appearance of yeast in colour and consistence, as if a large quantity of sero-mucous fluid had been evacuated without any admixture of bile or fæces. The abdomen was tympanitic, and pain was excited by pressure. By the use of alteratives (calomel, ipecacuanha, and opium in combination), and laxatives, assisted by cold affusions to the abdomen and blisters to the lower extremities, the symptoms of mucous irritation were again subdued. The stools became bilious and feculent, and there seemed to be no reason why the patient should not recover. He remained however weak and miserable, was much emaciated, without appetite, had a slight paroxysm of fever in the afternoon; the abdomen was tympanitic, but not painful, except when much pressure was made. In this state he continued with little apparent alteration for several days; his strength however gradually diminished, and he died.

On dissection there were evidently some vestiges of mucous inflammation; but bilious fæces were found in the intestines, and there was nothing in this tissue sufficient to account for the death of the patient. The peritoneal surface however was universally inflamed; lymphatic depositions connected all the viscera of the abdomen; while pure pus was found in circumscribed cavities among the convolutions of the intestines, and the folds of the mesentery. In the latter situation a large abscess was formed. Several portions of the peritoneum were of a dark or livid colour and easily torn, as if in a gangrenous condition.

Case 2d, as detailed by my friend Dr Nott. "Edward Graham, an Irish labourer, ætat. 30, of intemperate habits, was admitted on

the 19th of June, 1828, with mania a potu threatening. Pulse at that time was a good deal excited, tongue a little furred, slight headach; was ordered a dose of calomel and jalap, which he said purged him freely; after this he was sitting up and was thought to be convalescent, until the evening of the 21st, when he was seized with sharp pains in the abdomen, and a frequent disposition to stool without being able to evacuate any thing—abdomen was a good deal swollen. These symptoms were attributed to some impropriety in diet, and thinking the case nothing more than a common colic, without further examination, calomel. gr. x., pulv. opii, gr. i. were prescribed.

22d. He was a good deal better, but still complained of his abdomen, which on examination was found to be very tender and considerably swollen; pulse frequent, full and soft; tongue more foul; skin rather warm and dry; bowels not opened by the last medicine. Ordered cups to abdomen. ℞. Calomel. gr. ii., pulv. opii, gr. ss. —M. Cap. q. b. h.; also common enema.

23d, 8 o'clock, A. M. No improvement; skin hot; face flushed; pulse frequent, open, with slight tension; tongue of a dirty cream colour, brownish and dry in centre, edges florid; abdomen still swollen and tender. Ordered calomel, ℈i. to be followed by oil till bowels are freely opened, 60 leeches to abdomen, and warm fomentations.

3 o'clock, P. M. No relief; had two stools; pain in abdomen acute; compared it to knives running through him; pulse more tense; skin very hot. Ordered venesection; bore only ʒviii, which was cupped and buffy; enema and fomentations repeated.

10 o'clock, P. M. Better; has been perspiring freely; bowels well opened; stools copious, soft, feculent and offensive; pulse 104 and full; abdomen slightly relieved. Ordered 60 leeches and an enema of senna and salts; fomentations continued.

24th, 9 o'clock, A. M. The injection given last night brought away four or five copious stools; feels considerably relieved this this morning; pulse and skin nearly natural; tongue much the same; diet gruel.

3 o'clock, P. M. Not so well; pulse more frequent and tense; abdomen again quite tender. Ordered 60 leeches and fomentations.

10 o'clock, P. M. Considerably relieved; had several stools during the day.

25th, 9 o'clock, A. M. Improving; pulse pretty full; has a little tenderness of abdomen; *tongue still foul.* ℞. Calomel. gr. x., comp. ext. coloc. gr. x.—M.

10 o'clock, P. M. Medicine did not operate. Was ordered during the afternoon an injection, which opened his bowels several times; tongue the same; pulse irritated.

26th. Appears to be a good deal better; tongue cleaner; has little tenderness remaining; thinks himself well, and contrary to advice persists in leaving the house: he took his discharge and went out.

30th. Admitted again after being out four days; most probably has been eating and drinking imprudently, although he denies it; has acute tenderness on right side of umbilicus; abdomen swollen, particularly at the part where the tenderness is seated*; pulse 88, small and tense; tongue clean and florid at the edges; skin natural; has a cough; has had since his discharge frequent slimy stools with griping. Ordered 80 leeches to pained spot.

July 1st. No better; abdomen very tender; tongue covered with a cream coloured fur; skin cool; tormina and tenesmus, but no stools; pulse quick and tense. ℞. Calomel. gr. x.; to be followed by oil.

2d. Bowels were freely opened yesterday; pulse frequent, quick, and tense; skin not hot, but has a husky feel; appearance of tongue and tenderness of abdomen much the same. Ordered forty leeches and fomentations.

Evening. Not so well as in the morning; pulse 100, small, quick and tense; skin hot; abdomen very tender. Ordered affusions of cold water on abdomen and injections of cold water; heat of skin and pulse was reduced by the cold, and he felt better after it.

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* I would remark that the general cavity of the abdomen was but slightly swelled in this case, but that an ovoid tumour formed below and to the right of the umbilicus, presenting to the eye the appearance of an abscess formed among the muscles, but on examination by percussion and with the fingers, the swelling evidently depended on gas in the bowels. This tumour was the seat of the patient's severe sufferings, and in my clinical remarks, I mentioned to the pupils in attendance that I considered it a case of peritonitis, in which adhesions had occurred, in all probability causing the accumulation of air, and that there was reason to suspect an abscess would form.—H.

3d. Much the same this morning; had several watery stools during the night; cold water continued. Ordered blisters to ancles, and ipecac. gr. ¼, q. b. h.

4th. The blisters yesterday produced so much excitement that it was found necessary to remove them before they had fully drawn; feels better this morning; pulse 99 and quick; tongue the same; abdomen not near so painful to the touch, but is still protuberant; skin good; stools more consistent and natural; cold and ipecacuanha continued.

6th. Improving; little or no tenderness of abdomen remaining. Treatment continued.

7th. The swelling of the abdomen is becoming conical in form, pointing near the umbilicus; has a tympanitic sound on percussion, and when kneaded the gurgling of air is heard in the intestine; pulse irritable. Ordered a blister to the tumefied portion of the abdomen.

9th. Still complains of frequent inclination to stool; discharges very small and slimy. Ordered calomel, gr. x.

Patient is becoming feeble; allowed milk and chicken water; diet heretofore has consisted almost entirely of gruel and gum water.

20th. Has been lingering ever since the 9th without any material change in symptoms. Abdomen until yesterday remained tense and pointed. Dr Hodge thinks that an abscess has formed in the peritoneum; two blisters have been applied successively without any marked effect; pulse has continued irritable; febrile exacerbations in the evening; small and frequent evacuations from the bowels; tonics, astringents, and opiates have been given without any advantage. Yesterday afternoon the tumour of the abdomen subsided; patient says that he had at the time a considerable discharge of fluid and flatus, but as the stools had been thrown away by the nurse without examination, it could not be ascertained whether or not they contained pus.

He is now taking porter and diet to support his strength; all the astringents have failed in checking his bowels; he is now using burnt brandy and galls.

27th. Although the swelling of abdomen subsided on the 19th, a circumscribed hardness remained, extending for several inches around the umbilicus. An opening formed yesterday at the umbilicus, through which during the day about a pint of pure pus was dis-

charged, according to the account of the nurse and patient; the discharge is now trifling, and the patient would be pretty comfortable if it were not for his diarrhœa and a cough which increases with the debility. Ordered injections of sulph. zinc. gr. x. in half a pint of water, to check bowels.

29th. Slept pretty well last night; cough getting worse, and expectoration more difficult, owing to increased debility. Hectic paroxysms followed by copious perspiration; discharge now about 2 or 3 ounces daily; had 2 or 3 stools during last twelve hours. Ordered elix. vitr. gtt. x. t. in d., wine whey, and volatile liniment to breast.

30th. Gradually sinking; discharge from umbilicus of a greenish hue and very offensive—on pressure it comes out, mixed *with air and the contents of the intestine.* Treatment continued.

August 1st. Died.

Dissection.—On opening the abdomen, appearanees of extensive chronic peritoneal inflammation were seen. The peritoneum every where presented a leaden hue; pretty firm adhesions had formed between the folds of the intestines, between the omentum and intestines, and between the liver and peritoneum lining the diaphragm, &c.; the omentum and small intestines, just behind the umbilicus, had become agglutinated, and were united at the distance of two or three inches around the umbilicus to the anterior parietes of the abdomen; a complete sac was thus formed which contained pus and feculent matter; the abscess extended as far up as the liver, and had but two openings, one at the umbilicus and another about the size of a crow quill, into the small gut; the sac was so perfectly formed that no pus was found extravasated amongst the intestines around it; five or six ulcers, about the size of a ten cent piece, were seen on the *external surface* of the small intestines, but *perforating only the peritoneal coat*, except the one communicating with the abscess; a little abscess was also found near the left groin, in the folds of the mesocolon, around which was poured out about a gill of pus. The mucous coat of the stomach showed some marks of chronic inflammation; that of the small intestines was perfectly healthy, showing the ulcers had commenced on the external or peritoneal surface.

The mucous membrane of the large intestine was extensively diseased; looked as if it had been corroded by strong acid, a great

portion of it being removed by ulceration; it was of a light chocolate colour, and much thickened.

N. B.—I think it most probable that the abscess opened into the intestine before it did externally; the smallness of the aperture in the intestine will account for the late appearance of fecal matter in the abscess."—N.

Article VIII.—*Observations on the Treatment of Fractured Patella, with some Attempts at its Improvement.* By Henry Bond, M.D.

Read before the Kappa Lambda Society, February 25, 1829.

Surgeons have exercised their ingenuity not a little to devise improvements in the treatment of *fractured patella.* And when we consider how obvious and clear the indications are in such cases, we might naturally have expected, that the practice would have arrived at such perfection that complete success, in ordinary cases, would have been almost certain; especially when it is considered that an imperfect cure is very seldom a necessarily unavoidable consequence of the accident, but is to be attributed to the employment of means inadequate to an attainable end, or to their unskilful application.

The possibility of a bony union is now universally admitted; and it will not be contended that there is often any difficulty in bringing the fragments into contact. But fractures of the patella, according to the acknowledgments of all surgeons, are very rarely united by bone, the connecting medium being in almost all cases, says Mr S. Cooper, a fibrous ligamentous substance; and he ascribes this fact chiefly to the very great difficulty of maintaining the surfaces of the fracture in complete contact, and perhaps in some measure to the ligamentous or tendinous structure of the adjacent and intervening parts. Boyer says, "strange as it may appear, the bones cannot be kept in contact; the apparatus constantly gets loose, and cannot be changed often enough to prevent this effect from taking place." Mr John Bell says, "to preserve the bones

(fragments of the patella) in absolute contact, and prevent this imperfection in the cure, is almost impossible." Mr CHARLES BELL says, "I believe it to be possible to make a cure by union of the bone, but the specimens of the new ligament in my collection will prove how difficult the attempt is, how often it fails."

This part of surgery being confessedly thus imperfect, the profession will, I trust, receive with candour any attempts to improve it.

The two chief indications are, 1. By the position of the patient to relax those muscles which are inserted into the patella. And 2. By means of a surgical apparatus to maintain this position, and to counteract the efforts of the muscles to separate the fragments.

Some authors have entertained the opinion, that a proper *position alone* was sufficient to effect a cure; and cases are related in the Memoirs of the Academy of Surgery, by SABATIER, where fractures of the patella were cured by an attention to this alone. Although we do not believe that treatment adequate to effect any thing more than an imperfect cure, it illustrates the importance of a careful attention to position. The joint must be completely extended, and retained there at least fifteen or twenty days, before any motion is allowed to the knee. BOYER says, he formerly taught that this joint should be moved early to prevent stiffness; but the fear of elongating or breaking the intermediate substance led him afterwards to a different practice. In general, he says, we do not permit our patients to begin to move the leg before the expiration of two months. The knee soon becomes flexible, and false anchylosis is never produced.

The hip joint should be flexid, and this may be accomplished either by elevating the body or by elevating the limb, or by elevating both at the same time. As the flexion must be continued many days, it should not be great. If it be such as to form an angle not differing much from one hundred and thirty-five degrees, it will produce the necessary relaxation of the *rectus femoris*, and be as easy a position as any for the patient; and it would be safest to maintain nearly the same angle during the cure. It may be necessary sometimes, for the comfort of the patient, to vary his position. He may be raised nearly or quite to a sitting posture; but, in so doing, the affected limb must be lowered to a horizontal posture. When he wishes to assume a recumbent posture, the limb must be elevated in a corresponding degree. The best ordinary posture

for him is to rest on two inclined planes, rising in opposite directions from the hips. The head and shoulders may be conveniently supported by placing beneath the bed or matrass a board, as broad as the shoulders, and long enough to reach from the hips above the head. Its proper elevation should be varied and secured by placing beneath it some support, which cannot yield and be deranged so easily as piles of pillows and blankets. The limb may be elevated by similar means, except that the board should be placed above the bed and covered with a folded blanket. This board is not, however, very necessary, as the elevation of the limb may be maintained by placing a support beneath the long splint with which the fracture is dressed. Particular attention should be given, that the foot receive its full share of support, and that it be not left hanging like a weight upon the end of a lever. If the limb and shoulders be both elevated at the same time, a moderate elevation of each will produce the requisite relaxation of the muscles; and, in all the changes of position, made for the comfort of the patient, the degree of flexion of the hip joint should be allowed little variation.

I suppose that the separation of the fragments does not depend so much upon the ordinary contractility or tenacity of the muscles (this being easily counteracted), as upon the sudden increase of it by some excitement. Every precaution should therefore be used to avoid this; and whenever the position of the patient is changed, he should not be allowed to feel the necessity of making any exertions either voluntary or involuntary. He should be moved in such a manner that he will not feel any apprehension of danger or accident. If he be allowed to assume an upright posture in bed by his own efforts in the ordinary manner, the *rectus femoris* will almost necessarily be called into action, and none of the ordinary modes of dressing would be likely to retain the fragments in contact. This should be considered a point of great practical importance by every one who expects to effect a complete cure; for, when any considerable time has elapsed, every separation of the fragments, although they should be immediately replaced, greatly lessens the probability of a bony union.

It would by no means answer as well to produce the relaxation of the *rectus femoris* solely by the elevation of the body of the patient, even if that position could be endured with the least inconvenience; for I consider the elevation of the limb a point of great practical importance on another account, besides the relaxation of

that muscle. It is one of the most efficacious means of avoiding or subduing inflammation and tumefaction, which are often objects of the most serious attention. In fractured patella the knee often suffers such violence, that for a considerable time, on account of the inflammation and swelling, we have no means left, besides position, for keeping the fragments in place. For this condition, which demands the most prompt attention, authors recommend "bleeding, and the usual remedies for inflammation." But none of them, as far as I know, reckon the elevation of the limb among the means of reducing the inflammation; although I would reckon it second to none in point of importance. For *preventing* inflammation where there should be much reason to apprehend it, I would give the limb a very considerable elevation, and allow the body to be nearly or quite recumbent; direct salts and sedatives internally; refrigerant and sedative topical applications; let the limb be unincumbered with bandages; keep the knee extended by means of a long splint, attached to the limb by four circular bands. I would not resort to blood letting to *prevent* inflammation, unless the condition of the system should demand it. If it should not be prevented by these means, I would join copious bleeding to the other remedies to *subdue* it. Boyer says cold applications "are particularly applicable before the accession of inflammatory symptoms." He says, "experience teaches us, that in the case in question, and in all similar cases, the immersion of the part in cold water is useful, and should be continued for several hours, the water being frequently renewed in order to keep it cold." But this treatment is not to be employed unless the surgeon see the patient soon after the occurrence of the accident. It is the opinion of the same author that leeches cannot, in the greater number of cases, be applied with safety, "for the irritation produced by their bites, added to that already existing, might bring on gangrene of the part, and the patient's death."

I concur in the opinion of Mr Latta, that "while there remains any degree either of swelling, pain or tension, we cannot apply a bandage with any degree of propriety; nor can we even do so while there is good reason to believe that it will come on." Boyer adopted the same opinion, and it appears to me much sounder than that of Dr Dorsey, who says, "care must be taken to cover *every part of the skin* with the roller, because any part which is not thus supported will swell and inflame." This treatment of Dr D. would

seem to me one of the most certain means of aggravating the inflammation. From BOYER's *Lectures on the Diseases of the Bones*, as edited by RICHERAND, it appears that he used a tight rolling bandage in his earlier practice; but on referring to his *Treatise on Surgical Diseases*, which was the result of matured experience, it will be seen, that he has wholly abandoned it.

Mr CHARLES BELL recommends a very slovenly, and what would seem to me a very inefficient practice; and it is not surprising, that his collection exhibits so many proofs of unsuccessful practice. He places the patient in a sitting posture instead of elevating the limb—places a neckcloth about the knee in the form of the figure 8, with certain "nooses," which it is not easy to understand—applies no splint to keep the knee extended, and, for the relief of the patient, when he is tired of the sitting posture, lays him on his side. This gentleman, in his attempts to simplify the treatment, has adopted a practice which, in my view, is little better than leaving it to nature, without the interference of art. Much less could be expected from it than from that recommended by B. BELL and LATTA. Had the straps recommended by these gentlemen been combined with a long splint of proper width, it would have constituted an apparatus scarcely inferior to any now in use.

BOYER points out very clearly and justly the useless and mischievous effects of a bandage applied in the form of the figure 8, which was in use, especially in France, until DESSAULT introduced his mode of dressing. He says, "the bandage in the form of the figure 8 causes a congestion of the foot and leg, by not compressing the whole limb. Besides, the action of this bandage is oblique, and much of it is spent in merely compressing the neighbouring soft parts, which it irritates, and sometimes excoriates; neither is this inconvenience remedied by the pasteboard trough. The part of its action which is employed on the fractured parts is *always insufficient to keep them in contact*, if the constriction be not greater than the patient can bear for any length of time. If, in order to avoid this disadvantage, the bandage be not drawn sufficiently tight, its object will be entirely frustrated and its application useless." These defects occasioned this bandage to be rejected, and led to the invention of another, which, he says, was *less objectionable*, and which is generally designated as DESSAULT's apparatus. It is essentially the same as that recommended by Dr GIBSON, except that this gentleman substitutes the figure 8 bandage instead of the two long

compresses, which DESSAULT passed obliquely round the limb above and below the patella. Although this apparatus of DESSAULT was a decided improvement upon the simple figure 8 bandage, we can never expect, according to BOYER and as I believe, by means of it to keep the fragments in contact, and consequently never expect to obtain a bony union—the cure will be imperfect. This apparatus was long ago abandoned by BOYER for one of his own invention, and which is, in his opinion, "more simple than that of DESSAULT, and more certain in its action." "Its advantages are, that it leaves the fractured part uncovered, so that we may judge at any time of its situation; that it exercises strong compression without endangering mortification; and that the straps may be loosened and tightened at pleasure without deranging the other part of the apparatus." I cannot here forbear expressing my surprise that the sound judgment of Dr GIBSON should allow him to adopt a practice which, in my opinion, ought to be obsolete wherever the writings of BOYER are known. It is liable to most of the objections which BOYER has advanced against the simple figure 8 bandage. The long bandage, with which the limb is enveloped, invalidates them very little. A figure 8 bandage, as broad as that of Dr GIBSON, will have no decisive control over the patella, even if it were not liable to be loosened and deranged. It might prevent any extensive separation of the fragments, but it would not keep them in contact. Very tight bandaging might have some effect in rendering the muscles of the thigh quiescent, if it could be made to maintain a uniform tension. But the taper form of the part, its variation in size, either from swelling, compression, want of exercise or emaciation, and the liability of the bandage to stretch—all these circumstances forbid us to expect to maintain that tension. If the bandage become too tight, too loose, or otherwise deranged, it cannot be adjusted without deranging the whole apparatus.

Dr DORSEY adopted the principles of BOYER's apparatus with some modifications in regard to the simplicity of its structure, which, however, can scarcely be admitted to be improvements in point of utility. He adopts the practice which BOYER abandoned after mature experience—of enveloping the whole limb with a tight rolling bandage. To this practice I have already stated my objection. But it is to be particularly noticed, that the bandage, by which he proposes to "cover every part of the skin, so as to prevent swelling and inflammation," is not applied to the naked limb, but includes

the long splint with its cushions and compresses. It must be very obvious, that it would be impossible to give a uniform support to every part of the skin by a bandage so applied.

I entirely approve of the principles of BOYER's apparatus, for I believe them to be so just, that the only improvements which can be expected in the treatment of this accident must be some modifications of its construction; and these must consist, either in simplifying it so as to require less art, labour, or expense in its construction, or in making it more comfortable to the patient, more easy in its application, or more certain to make the principles of his apparatus effective.

The apparatus which I would employ consists of—

1. A many-tailed bandage,
2. A cruciform splint,
3. A rolling bandage, and
4. Four ribbons or strips of muslin.

1. The *many-tailed bandage* is not an essential part of this apparatus, for often the treatment may be better managed without it or any primary bandage. But it may be used where it is necessary to envelope the limb for the comfort of the patient, either on account of excoriation, the maintenance of a proper temperature, or to support a flabby old limb inclining to the œdematous. It may be made by spreading a piece of leather three or four inches wide, and as long as the splint, with adhesive plaster or glue, and then laying upon it a row of strips of muslin overlapping each other, and of a length suited to the size of the limb. The leather is to be placed next to the skin, so as to cover that part of the limb which is to rest upon the splint. The limb is then to be enveloped with the tails of the bandage, beginning at the ankle, and taking care to leave the knee uncovered. The advantages of this bandage, where bandaging is expedient, are sufficiently obvious.

2. To make the *cruciform splint*, take a piece of board three inches wide or more, and long enough to reach from the ischium to the ankle; slightly hollow it its whole length. Across the middle or directly opposite to the knee, but not on the concave side, nail a thin piece of board two inches wide and five or six inches long. Along the whole length of the hollow side of the splint nail a strip of thick bookbinder's pasteboard, from ten to fifteen inches in width, according to the size of the limb. Opposite to the knee, the pasteboard must be cut away on each side so as to leave a va-

cancy of four inches. This pasteboard I do not consider an essential part of the splint, but it may contribute to give the limb a more safe and comfortable lodgement. Cover the splint with folds of soft flannel or a bolster, so made as to give the limb an even support in all parts. Upon this lay the limb, keeping the heel elevated as already directed, when speaking of position.

3. The *roller* should be made of firm new muslin or linen, not more than one and a half or two inches wide, and seven or eight yards long. If it be wider, it will not act so directly on the part where it is necessary to apply the most power; and, as all the turns of it are oblique, it will not be so easy to apply it smoothly. When the fragments are brought together, previously to applying this bandage, give them a triturating motion, by which any surrounding soft part that may have insinuated itself between them may be removed; and by the crepitus or the sensation communicated to the hand, we may ascertain that the fragments are in contact. Unless a considerable time have elapsed after the accident, this trial will generally give less distress than the attempts to produce crepitus in most other parts. In bringing the fragments together, it is not necessary to make the muscles more relaxed by the flexion of the hip joint, than they are when the dressing is finished; for if we cannot bring the fragments together without this extreme flexion, we may very reasonably apprehend, that none of the ordinary contrivances will keep them in contact when the flexion is diminished. In some cases it may, perhaps, be necessary to reduce the tonicity of the part by those means which produce muscular relaxation. In bringing the fragments together, care must be taken, if the muscles be much relaxed, that the upper one be not brought so low as to occasion the ligament of the patella to double upon itself; for in this case the axes of the two fragments might be made to form an angle with each, as in the case of M. Lallement, reported in Boyer's surgery. If the fragments be allowed to lie as high as the ligament will permit, they will rest between the upper parts of the condyles, where they will be much more likely to retain their natural relation to each other, than if forced down opposite to the joining of the tibia and os femoris, and there would be less probability of any excrescences remaining on the articulating surface of the patella after the union of the fragments. After adjusting the position of the fragments, the roller is to be applied by carrying two or three turns of it below the lower fragment and above the

transverse part of the splint, so as to fix that portion. The rest of the bandage is to be applied by carrying it alternately above the patella and below the transverse part of the splint, and above this part of the splint and below the patella. There is very little danger that this bandage will slip or be deranged; but if any be apprehended it may be guarded against by inserting pins into it on each side of the knee. I see no particular need of a compress above and below the patella where the bandage passes; but there would perhaps be less danger of excoriation, if the parts were covered with strips of leather spread with adhesive plaster.

I have said that the width of the splint should be three inches or more, according to the size of the limb. I consider an attention to this point of very considerable practical importance, although Dr Dorsey seems to have viewed it as a matter of indifference. 1st, If the splint be as wide, or a little wider than the knee, it will prevent the bandage from acting on the side of the joint, so that nearly the whole force with which it is applied will act on the proper point, instead of being wasted on the adjoining parts, and the bandage will consequently require to be applied with less force. 2d, It will prevent pressing much on soft parts which by their yielding will render the bandage more liable to get loose. 3d, The bandage will not press upon the lateral parts of the joint, so as to interfere with the circulation throughout the limb.

4. *Four ribbons, or strips of muslin* twenty-five or thirty inches in length, are required to be carried around the limb, including the splint, and be tied—two above the knee and two below. With the observance of the directions which I have given concerning the position of the patient the dressing is finished. Although I have said that it is unnecessary to make any extraordinary flexion of the hip joint at the first dressing, it would probably be safest to increase the flexion whenever the roller requires to be removed or exchanged.

The advantages of the *cruciform splint* are,

1. The simplicity of its structure and its easy application.

2. The very little liability there is, that either the splint or bandage will be deranged.

3. It may be applied so firmly as to accomplish pretty certainly the chief indication, without interfering with the circulation of the limb.

The pain which the patient will suffer for a few hours after the

application of this dressing, is, I believe, unavoidable in any efficient treatment of this accident; but it is neither more severe nor protracted than that unavoidably suffered in the treatment of some other fractures; and we must encourage the patient to bear it in the hope that it will not be of long duration.

I have had only one opportunity to test the efficacy of the treatment here recommended. In the spring of 1823, I was called to Hannah Saunders, more than forty years of age, who had fallen in the street and fractured the left patella. She supposed it was occasioned by falling on the edge of a brick. It was dressed with a cruciform splint, and treated according to the principles advanced in this paper. I have seen the patient within a few days and examined the knee. I could not detect any deformity in the patella; there is no lameness in it, and she performs complete flexion and extension (squatting down and rising up) without the least inconvenience. I have no reason to doubt that bony union has taken place.

ARTICLE IX.—*Of the Causes which retard perfection in the Healing Art. By* A. MATTHEY, M.D. *of Geneva, the Academies of Dijon, Turin, &c. To the Kappa Lambda Society of Philadelphia. Translated from the original French by* D. THEODORE COXE, M.D.

The curious changes which have taken place in the healing art consequent to the different revolutions in medical theory, i. e. the mode of considering the principle or nature of diseases, are well known; as are also the striking opposition and contrast in their treatment, produced, from the days of GALEN to the present time, by the humoral, mechanical, and chemical doctrines, and especially among the more modern by those of BROWN, TOMASINI and BROUSSAIS.

In coolly examining these perpetual differences of opinion, these continual contradictions, we readily perceive why profound thinkers have estimated medical science differently from theorists: we at

least perceive why medicine is, of all the branches of natural history, the most uncertain in its progress, the slowest in its march, and the oftenest retrograde: why discoveries in physiology, which at the first glance are the fittest to enlighten pathology and perfect the healing art by seeming to raise theory upon solid, immoveable bases—why I say, new physiological views, by exerting in their turn an exaggerated influence upon therapeutics or the curative process—injure even in this way, more than they serve, the advancement of the healing art.

In fact, in medicine as in politics, one excess always leads to its opposite. The rage for shedding blood which seized upon all fanatical heads by the discovery of HARVEY, gave way to an excessive fear of bleeding. They ended by banishing its use; and even in those cases where its efficacy had been recognised and established by long and wise experience, tonics and excitants became in their turn the dominant, exclusive curative means. BROWN succeeded BOTAL. In our day, the exaggerations of the phlebotomising physicians have reappeared; leeches have merely been substituted for venesection. It is easy to foresee the approaching fate of these new excesses.

Already are restored to light the forgotten opinion of VACCA, and the experiments of THOMSON, WILSON PHILIP and HASTINGS on inflammation:—physiological experiments tending to prove that phlogosis is the product of atony in the capillary vessels, and consequently that tonics are antiphlogistics *par excellence*—an opinion which Dr PRIDGIN TEALE has just undertaken to confirm in his experience. He has employed, he says, with continual success, the sulphate of copper in acute as well as chronic ophthalmia, turpentine in puerperal peritonitis, calomel and quinine in inflammations of the bowels and brain. He is led to believe from repeated observations, that sanguine depletions, local and general, are very often useless, and frequently injurious in most of these inflammations.

I ask—what opinion can a reflecting man form of the progress of medical science when he daily sees new conflicts arise upon subjects the longest debated, upon the nature and treatment of the morbid affections which seem best known, at least most studied? What confidence can he have in the healing art, when he sees the most striking contradictions in the opinions of physicians at the bed-side of a patient, when they are to apply a remedy to his dis-

order? Why is there so little understanding among physicians? Whence is it that each sectary maintains his opinion with the weapons of intolerance and absolute power, as though he were infallible, as if the point in question were an article of religious faith intolerant of examination?

It must be confessed—the mania of excessive generalization of facts, the desire of being distinguished by the seductive eclat of a new theory, the infatuation of self-love, and the despotism of personal interest are the most powerful causes of the obstacles to the perfection of the healing art!

These obstacles have, I am aware, been long pointed out by excellent observers; I think it good however to designate anew these inevitable rocks—they must be constantly pointed out, for they are lost sight of the moment a new theory, or a new curative process appears above the medical horizon. The literal, the credulous, children, and the simple are the ready dupes of the learned, philanthropic and religious grimaces of an apt impostor; the honest, prudent and wise should continually unmask them; we must not be imposed upon by the babble and dogmatic tone of theorists; after having heard them speak, seen them act—it is by the effects alone of their curative process, we should test their doctrines: the sucessful are the good—now, each may be good in its turn, in certain circumstances.

We perceive what should be done to perfect the healing art, but we also perceive the obstacles which must first be removed; these obstacles in fact are inherent in the human heart: to surmount them we must first destroy the passions which give them birth—self-love and personal interest on one side, and on the other the fear of death and blind credulity its natural consequence. Hic labor, hoc opus est. The period however is more than ever favourable; the enlightened spirit of the age is inimical to imposture—it will second the efforts of conscientious, disinterested physicians, enemies of deception, sincere friends of truth; we must in fine avow frankly and openly, that medical science has its limits and its degrees of certainty. Why seek still to deceive one's self and others by culpable caution or pompous and vain promises? Why not imitate the good faith, reserve and moderation of naturalists and philosophers! In exposing our views and opinions, why exhibit a fear of seeing them combated or overthrown by new facts! Why be vexed at fresh observations which modify our own! Has not LAVOISIER re-

tained his portion of glory, spite of the discoveries of modern chemists? Is not the progress of medicine, like that of chemistry, gradual? Is it not the result of the notions and errors of our predecessors? Why contemn them? And on the other hand—why fear new lights? Did not VOLTA applaud his disciple BELLANI for combating by facts his theory of hail? Should truths, which have for their object the health of man, be less precious in the eyes of physicians than physical speculations? or, should their theoretical notions prevail in their minds over the generous sentiment of public good and humanity? No, certainly, it is hoped: the reflexions I have just made, in reading an article* of the Journal of Medicine, must assuredly have been already made by the majority of its readers; they must in time bring important results to the perfecting of the healing art, and to the general good. Theorists, henceforth moved only by the love of truth, will see without pain their doctrines submitted to the test of experience and judicious criticism: the results of different curative plans will be compared without prejudice—without party spirit. It is the only way to arrive at and appreciate their value, and point out with precision the advantages and dangers of their application. It is only thus we can succeed in giving to medicine the character of certainty and dignity appropriate to it.

Unprejudiced men—zealous friends of every noble and generous sentiment! to you it belongs to show, by your example, what harmony and disinterestedness in the citizens charged with assuaging our miseries may do for the good of humanity.

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* Article in which the most moderate and judicious observations are treated with ignorance and critical prejudice.

ARTICLE X.—*Note on* MERAT'S *Remarks on a Paper on Lead Disease, published in the North American Medical and Surgical Journal, January* 1828. *By* R. HARLAN, M.D.

In the "Journal General de Medecine" for the month of July 1828, I perceive that the editor has done me the honour to translate my essay on the diseases produced by lead, published in this Journal for January 1828.

Appended to this memoir in the French journal there is a note by M. Le Dr MERAT, author of a treatise on "colique metallique." In referring to the article on lead colic in the "Dictionnaire des Sciences Medicales," we intended no offence to the author of the very valuable observations contained in it, but because we considered the article a fair representation of French practice.

M. MERAT appears to think that I should have offered more detailed observations on the disease denominated colica pictonum. Having carefully noted the peculiarities of the disease as observed in my practice, arising probably from corresponding peculiarities in constitution, in variation of climate, locality, &c. it appeared to me unnecessary to enter into a more particular detail of symptoms which characterise a disease so well known as colica pictonum. Such varieties as I have noticed occur more or less generally in all diseases, under similar circumstances.

M. MERAT reprobates in the strongest terms the administration of the *acetate of lead* in those cases of colic where the stomach of the patient rejects every thing introduced into it. The annotator remarks, "This salt, which itself causes the disease, given to cure it! We must confess that there is in this recommendation a subversion of ideas calculated to astound the imagination of the boldest practitioner. Unless we adopt the theory of HANNEMANN, who asserts, that a medicine susceptible of producing a disease, should be the proper one to cure it; we cannot conceive of a curative measure more in opposition with all received doctrines."

M. MERAT, in offering these remarks, has permitted his imagination to obscure his judgment. We believe he is too judicious a practitioner to be astonished at a doctrine so commonly acted on. Does not he himself advise the free administration of opium, a powerful astringent, in colica pictonum, a disease whose principal

character consists in constipation? Do not practitioners occasionally apply a blister to cure certain inflammations? Nux vomica taken internally in certain quantities will produce palsy and tetanus, yet I can speak with certainty of the beneficial effects of this medicine in these affections when properly administered. Excessive use of ardent spirits induces mania a potu: here too the bane will prove the readiest antidote. It will be recollected further, that I have not recommended the acetate of lead as a remedy for colic; but merely as a palliative in those rare cases of excessive gastric irritability in which all other remedies are useless; because rejected as soon as offered. Finally, in no case have I observed injurious consequences to arise from the administration of acetate of lead, when its use was clearly indicated.

Analytical Reviews.

ARTICLE XI.—*Beobachtungen über den Säuferwahnsinn oder das Delirium Tremens. Von Dr* GEORG BARKHAUSEN, *Zweytem Arzte am Kranken und-Irrenhause in Bremen. Pp.* 244, 8*vo. Bremen*, 1828.

Observations on the Delirium of Drunkards, or Delirium Tremens. By Dr GEORGE BARKHAUSEN, *Second Physician to the Hospital for the Sick and Insane in Bremen.*

But a few years have elapsed since the attention of the profession generally was first directed to the peculiar character of delirium tremens: much diversity of opinion still exists among its members in relation to the pathology of the disease, and in its treatment various and even opposite plans have been and still are pursued. In our own country, where the disease was early recognized, one class of practitioners, referring its cause to that indefinite state of the system which they term debility, trust its cure to ardent spirits, with other diffusible stimulants, tonics and opium; another class, considering it to be principally a gastric affection, treat it by emetics alone, and a third, with various views as to its nature, place the patients affected with it under the use of opium, in such doses and so long continued as to induce a sound sleep of some hours duration; while in some parts of Europe it has been treated by the same remedies as are adapted to an actual inflammation of the brain.

Were we to judge of these different modes of treatment from the manner in which they are individually spoken of by their respective supporters, we should be led to the conclusion, that the disease was to be removed with equal facility by either; but when we come to examine the statements which have been published of their compa-

rative success, we shall find, what might easily have been determined beforehand, that in this respect they differ essentially from each other.

In this city a large proportion of our most authoritative practitioners are in favour of the opium practice, as laid down in the very excellent paper of Dr COATES, contained in a former number of this Journal*, while others, equally respectable, pursue the emetic treatment.

With respect to ourselves, although we have been taught by experience to consider opium by itself, or in combination with ipecacuanha, as an essential remedy in the majority of the cases of delirium tremens, yet have we not in every case trusted to it alone, but previous to its use have invariably directed cups or leeches to the head, whenever symptoms were present that appeared to call for their employment; and during its exhibition have directed blisters to the back of the neck, cold to the shaved scalp, and occasionally sinapisms to the extremities. By this plan we have very generally succeeded in speedily restoring our patients to their accustomed health; in a few cases, however, either in consequence of our not having carried the depleting and other remedies to a sufficient extent, or from having resorted too soon to large doses of the opium, we are persuaded that the latter, so far from having been of any service, has actually accelerated the fatal termination. From these facts, therefore, we have been led to the conclusion that the opium practice, as generally pursued, is not, at least from the very commencement of the attack, equally adapted to every case of delirium tremens, but will in many prove actually prejudicial, and this in consequence of the disease in these instances being complicated with an irritated condition of the brain approaching, if not amounting, to actual inflammation. A similar opinion, but carried to a much greater extent than we are inclined to follow, is advocated by Dr BARKHAUSEN in the work which has been placed before us for review; and as the author professes to have drawn his conclusions from the result of numerous cases, and to have tested their accuracy, whenever the opportunity presented itself, by an examination of the appearances in the brain subsequent to death, we cannot, it is believed, on the present occasion, better occupy a portion of this de-

* See Vol. IV. pages 27 & 205.

partment of the Journal than by a concise but fair analysis of his peculiar views.

"Delirium tremens," Dr B. defines to be "that disease which attacks individuals only after a long continued habitual use of spirituous liquors; and is characterised by a disturbance of the functions of the brain and of the nervous system generally, occasioning absence of sleep, delirium, and delusions of the senses of a peculiar kind (hallucinations); frequently attended, also, by considerable tremor of the limbs, and sometimes by a disturbance of the vascular system, with fever; marked by a great tendency to collapse, and terminating favourably only by the occurrence of a critical sleep." —Page 5.

After a few unimportant remarks on the name of the disease, he proceeds to a consideration of its cause;—intemperance, particularly in the use of distilled spirits. This section is extended to an unnecessary length by an examination in detail of the various classes of society, trades, &c. in which delirium tremens has been found of most frequent occurrence; from this the following general conclusion is drawn. That the disease may occur in every individual who gives himself up to the vice of intemperance, and hence whatever rank or condition in life presents the greatest number of cases of the disease, it is from the fact that in such the vice alluded to prevails to the greatest extent.—Page 10.

That delirium tremens is produced, almost invariably, by an intemperate use of ardent spirits is proved by the fact of its very unfrequent occurrence in wine countries, compared to the very great extent to which it prevails in those places, and among that class of people, in which ardent spirits are extensively consumed. Dr B. also remarks in confirmation of this opinion, that in his own country, many individuals of the lower classes, who serve as labourers in the vineyards, drink daily great quantities of wine without their ever appearing to be affected with genuine delirium tremens, until the wine, which becomes after a period not sufficiently stimulating for their use, is exchanged for ardent spirits.—Page 7.

Slight attacks of the disease have frequently been observed by our author to result also from the long continued excessive use of beer, especially strong beer. In regard to the extent to which ardent spirits may be drank without producing delirium tremens, and the smallest quantity from which it may result, we are informed that no general rule can be laid down:

"I have seen it," remarks Dr B., "produced equally in indivi-

duals, who, from the use of great, or disproportionately small quantities of ardent spirits, almost daily, or but seldom, or perhaps never became intoxicated; still, however, in all these instances too much liquor, in relation to the constitution of the individuals, had been used. I have thus even seen persons affected with the disease, who had never been considered actual drunkards, because never intoxicated. The different degrees of irritability of constitution may, perhaps, occasion a greater or less, really constitutional, predisposition to it, though it cannot be properly said that any one has an innate predisposition to the disease—the predisposition itself being artificially induced by intemperance. Thus, the individual who, from his greater irritability of constitution, might readily become intoxicated, or affected with delirium tremens, cannot, any more than another who is endowed with less irritability, be said to be predisposed to the disease, so long as he is no drunkard; but should the latter be the case, then the extent of the irritability of the constitution can point out his greater or less predisposition, even while this predisposition is itself the result of intemperance."—Pp. 9, 10.

Ordinarily, habitual intemperance is considered as sufficient of itself to produce an attack of delirium tremens, without the occurrence of any exciting cause; frequently, however, according to Dr B. other accidental causes contribute to its production, as certain affections of the mind, particularly vexation, fear, terror, jealousy, indignation, &c. So, also, he conceives, any other disease with which a drunkard may become affected, will operate as an occasional cause, especially all mechanical injuries; and in general, every occurrence which disturbs the natural equipoise of the various functions, and changes the ordinary, physical and moral condition of the drunkard. These causes may even bring on the disease in individuals whose intemperate habits have been for a long time discontinued. This has been observed by SUTTON as well as by Dr B. in several instances.

"There can be no doubt," remarks the latter, "that the sudden and entire relinquishment, either voluntarily or by constraint, of the use of ardent spirits, is also a legitimate exciting cause of delirium tremens, as ARMSTRONG and several German observers have remarked: very recently professor LUDERS has noticed the same fact*, while it is doubted by Dr LIND† and others." ARMSTRONG notices the case of a female in whom delirium tremens

* Historia Instituti Clinici per ann. I. et II. mod. A. F. Lüders.—Glückwuns. Programm zur Feyer des 50 jär. Jub. von. G. H. Weber, am 21 May 1827. p. 20.

† De Delirio Trementi, &c. Havniæ 1822, p. 68.

occurred in consequence of her suddenly relinquishing the use of opium, large quantities of which she had long been accustomed to take." Pp. 15, 16.

Our own experience has led us to a somewhat different conclusion from that of Dr BARKHAUSEN, we believe that delirium tremens never occurs without an exciting cause, and that this cause is, in almost every instance, if not in all, the sudden suspension of the use of ardent spirits in the habitually intemperate; this is also the conclusion of Dr COATES, in the paper already alluded to, whose opinions in regard to this particular disease, from the ample opportunities he has had of observing it, and the attention he has for many years paid to all the phenomena connected with it, carry with them very considerable weight. We cannot say that we have ever seen an instance in which delirium tremens occurred during the career of drunkenness; and even when it has made its appearance subsequent to an epileptic attack, during the treatment of a wound or fracture, or in the course of some other disease, we are convinced that it has always been in consequence of the patient having for a time laid aside, or been interdicted his usual potations. When not complicated with some accident or disease, we have generally remarked that the patients who have fallen under our notice, had been, for several days preceding the disease, in a state of complete intoxication, on recovering from which they have remained for a time, without again resorting to their accustomed quantity of ardent spirits, and under these circumstances it has been that delirium tremens made its appearance.

The attempt made by Dr B. to prove that the disease is more prevalent under certain peculiar conditions of the atmosphere, we pass by without comment. We do not think that he has succeeded in rendering the opinion even probable, and we know of not a single fact which would appear to give any support to it.

The description of delirium tremens contained in the fourth section of the present work, is in the general outlines extremely correct and striking; in filling these up, however, the author has laid down several symptoms, of more or less frequent occurrence, which we cannot say we have recognized at the bed-side; it is true that this may have arisen from our having studied the phenomena of the disease with less minuteness than Dr B. appears to have done.

Delirium tremens is divided into the acute and chronic, the idiopathic and symptomatic, and into the sthenic and asthenic. The

two first of these terms are used in the ordinary sense of the nosologists. Idiopathic delirium tremens is that which arises solely from intemperance, and is unconnected with any other disease or injury; the symptomatic is that which occurs during some other affection, or subsequent to a fracture, wound, &c. The last division, which Dr B. considers the most important, and upon which are founded nearly all his views in regard to the pathology and treatment of the disease, will necessarily occupy more of our attention.

The *sthenic form*, according to our author, is that which occurs generally in robust subjects, particularly the young, or those advanced in years, whose habits of intemperance have not been of long duration, who have a natural appetite, a good digestion, and are still possessed of some degree of constitutional vigour. In general, the first, and not unfrequently the second attack of the disease, are on this account, of a sthenic character.—Page 42.

The *asthenic form*, on the contrary, is that which the disease assumes in old worn out subjects, especially in those who have been habitual drunkards for many years; whose digestive and nutritive systems have been long in a morbid condition, and who have already perhaps suffered from attacks of the disease. So also every thing which produces upon the drunkard a debilitating effect previous to the occurrence of the disease, such as depressing affections of the mind, poverty; other diseases of a debilitating character, as hæmorrhage, severe diarrhœa, cachexies, &c. can impart to delirium tremens an asthenic form.—Page 52. The nature of the ordinary drink of the patient is supposed also to have some effect upon the form of the disease produced by it. Thus we are told that the use of genuine distilled liquors obtained from grain, and unadulterated, favours the production of the sthenic; and impure spirits, adulterated by foreign admixtures, the asthenic form of delirium tremens.

In both forms the disease passes through three different stages, which the author denominates *stadium prodromorum*, *stadium invasionis*, and *stadium acmes*.

In the sthenic form the *first stage* is frequently overlooked, in consequence of the rapid manner in which the disease makes its attack, the mildness of the symptoms, and its short duration. Sometimes the attack commences with an unusual volubility and boisterousness in the patient, frequently connected with great gaiety, still oftener with peevishness and a disposition to quarrel; in other cases

with sudden paroxysms of great anxiety and palpitation of the heart: "the patient often gnashes his teeth, and presses upon the region of the heart; the case may even be mistaken for one of carditis; or the disease is ushered in by an epileptic fit, with great determination of blood to the head, or by a vertigo almost approaching to apoplexy; or by an active hæmorrhage from the stomach, bladder, or nose." The symptoms may, however, be confined to "a singing in the ears, pain of the head, a sense of ebullition in the blood, (wallungen im blute), a feeling of uneasiness at the præcordia, with an inclination to eructation, without the power of satisfying it, &c. The tongue is often coated, but gastric disease is seldom very evident; the pulse is commonly quick, full, and even hard, seldom irregular or intermittent, and very seldom completely normal. The skin is often disposed to perspiration, but often in a contrary condition. The face is unusually red, the head hot; a very slight tremor of the limbs may sometimes be observed; more generally it is absent." At first the patient's sleep is not affected, then it comes on only late in the morning, and is often disturbed by anxious dreams; towards the close of this stage sleep is entirely interrupted. These symptoms, according to the greater or less violence of the attack, may continue for days, or even weeks. The disease has been known to be confined to this stage, but generally it passes into the *second*, marked by entire absence of sleep and the presence of hallucinations; in the sthenic form these have often one general tendency, or are marked by the predominance of a single passion or one fixed idea. The patients are tolerably manageable, but still exhibit some degree of obstinacy, and are more often gay than anxious and melancholy; they frequently imagine they hear rain, or a loud wind, and complain of heat of the head. Tremor of the limbs is either absent or exists only in a slight degree. The pulse is commonly upwards of 100, is often full and undulating (wogend), more frequently soft than hard. The tongue becomes more foul, the cheeks red, the expression of the countenance unsteady. The perspiration is often increased, and warm; but not always, and seldom to any great degree. Sometimes the disease does not go beyond this period, but it frequently passes to the *third stage*. "The hallucinations and delirium are now more wild; the patient is unruly, he can no longer, as heretofore, be retained in bed, but insists upon rising, and longs to follow his occupation; frequently he escapes from his attendants and wanders about. His restlessness

and anxiety arise to the highest pitch; the pulse is commonly still, full and accelerated, but frequently has a peculiar tremor, which may even give to it the appearance of irregularity. If no tremor of the muscles has as yet been observed, it sometimes, but not always, now comes on, but only in a slight degree; if it previously existed it still continues. The redness of the face and heat of the head remain. The perspiration is somewhat augmented. The duration of the two last stages is indefinite, but neither is apt to extend beyond three or four days."

The terminations of the sthenic form of delirium tremens are, 1. *In health.*—This may occur in any of the stages, but most commonly at the close of the third. It takes place sometimes spontaneously, without any medical aid. The recovery is invariably preceded by a good, natural, and continued sleep. Of what duration the sleep must be to eventuate in health cannot be determined; Dr B. however conceives, that a shorter sleep than from six to eight hours is of no benefit. "A soporose, agitated sleep, forced by the administration of powerful narcotics, may as certainly," it is observed, "terminate in death, as in the cure of the disease." We are informed that by attending to the natural course of the disease, it will always be found, that a decrease in all its symptoms gradually takes place previously to the occurrence of the sleep. When the latter has been of sufficient duration, the patient awakes perfectly rational, and in general without any recollection of what occurred during his sickness. "There now takes place a state of general enervation and sullenness, as after a debauch: the pulse still remains for a time full and undulating, but is natural in regard to frequency; the perspiration ceases, the tongue is mostly very foul; there is considerable thirst, no appetite; by degrees these gastric disorders cease, and the patient is restored to his ordinary health." 2. *In death.*—This occurs during the height of the delirium, in consequence of a sanguineous or serous apoplexy. Dr B. has observed this to take place either during the state of continued wakefulness, being preceded by convulsions, or during a deep sleep. In the latter case, he remarks that the apoplexy is peculiarly apt to occur when the sleep has been forcibly induced by large doses of opium, but no doubt also, he adds, when opium has not been administered. 3. *By passing into the asthenic form.*—This may occur in any stage, and is often produced in consequence of the occurrence of some debilitating cause, as a hæmorrhage,

diarrhœa, &c. and not unfrequently from a treatment too powerfully antiphlogistic in reference to the constitution of the patient, which may easily happen when the attack has been preceded by some disease which would appear to demand such treatment, as active hæmoptysis, pneumonia, &c.—Page 45 et seq.

The first stage of *asthenic delirium tremens* has many symptoms in common with that of the preceding form. But in general the patient complains more especially of an anxiety, which, in its phenomena, bears a great resemblance to that of hysteria, and is accompanied with a feeling of great uneasiness at the præcordia, with involuntary sighs and eructations. There are commonly many symptoms of gastric disease, as vomiting, loss of appetite, diarrhœa, acidity, flatulence, great foulness of the tongue, pains of the stomach, &c. These both precede and accompany the disease. There is little redness of the face, and less heat of the head: the perspiration is profuse, and generally, even at this stage, there are severe tremors of the limbs and a small pulse; the latter is frequently very much, and in some instances not at all, accelerated. According to our author, this form of delirium tremens is never confined to the above stage but always passes into the second, marked by absence of sleep, and a peculiarly anxious delirium; the hallucinations are very various and of the most motley appearance; the ideas wander in every direction. "In the expression of the countenance, is strikingly depictured the peculiar mixture of anxiety, embarrassment and a more cheerful temper, experienced by the patient, as well as his attempts to conceal what passes in his mind." In his demeanour he is more compliant than in the preceding form. The pupils have appeared in some cases to be contracted. The perspiration and tremor of the limbs increase, or if not previously present, now come on, and are to a much greater extent than in the sthenic form. Symptoms of determination to the head are either absent, or very trifling. The pulse is smaller, more tremulous, and difficult to be accurately examined. Its frequency is evidently augmented, but in a few cases the previous frequency is now removed. The third stage differs from the preceding only in the greater violence of all its symptoms. The delirium is more fluctuating; the ideas, if possible, more wandering; the restlessness and anxiety increase, most commonly, every hour. The tremor of the muscles is so considerable that the patient, like one intoxicated, cannot walk unless taking hold of some object, and with difficulty

protrudes his tongue when desired. Subsultus tendinum now comes on. The perspiration is profuse and cold; the tongue becomes more loaded; the pulse is always small, and often so frequent as no longer to be counted, or is so weak that it is impossible to distinguish between its motion and the constant tremor of the muscles. In the lineaments of the face is strongly expressed the danger of an approaching collapse; frequently vomiting and purging occur. Asthenic delirium tremens may terminate, 1. *In health.*—Dr B. never saw a case in which this took place excepting by the aid of appropriate remedies. As in the preceding form, it occurs here, also, only by the intervention of sleep, preceded by a gradual decrease in the violence of the symptoms. Subsequent to the removal of the peculiar phenomena of the disease, there remains a state of enervation and depression; and the morbid condition of the digestive organs requires that the patient should still continue under medical treatment. 2. *In death.*—"Whether," remarks Dr B. "the determination of blood to the head is, in the asthenic form of delirium tremens, ever so considerable as to produce sanguineous apoplexy I must be allowed to doubt: I have never observed such a termination, and am not convinced even of the possibility of its occurrence. Almost in every instance, death is in this form the consequence of exhaustion;—of paralysis of the brain and nerves, commonly without sleep having been induced, notwithstanding fruitless efforts have been made for that purpose, but also occasionally after the patient has actually slept."—Page 53 et seq.

Chronic delirium tremens may be attended with symptoms inclining either to the sthenic or asthenic form. The patient appears sometimes disposed to sleep, but his sleep is never of sufficient duration to counterbalance the previous want of it. Occasionally he sleeps during the whole night and awakes in the morning rational, but soon relapses, for a long time, into the state of watchfulness, and the previous delirium again returns. Dr B. has seen this form of the disease terminate fatally with all the symptoms of nervous fever, sometimes with an organic affection, particularly of the liver and lungs, and a consequent dropsy. "Frequently," he remarks, "the disease loses its peculiar character and terminates in actual mania. Armstrong mentions that he has observed this once, and I have seen it much oftener."—Page 58.

We can neither spare the room, nor have we the inclination to enter into any detailed examination of the correctness of the forego-

ing division of delirium tremens. We admit without hesitation, that when the disease occurs in certain constitutions, particularly the young and robust, its symptoms are in some degree modified, and that it requires under such circumstances, in the commencement of the case at least, a treatment somewhat different from what it does when occurring in those who have been, as it were, worn out by many years of intemperance. We believe, however, that the disease is the same in both cases, it being merely complicated in the first with a certain condition of the brain, which it is necessary to remove, before opium can be administered with safety, to such an extent as to procure sleep, the occurrence of which, it is conceded on all hands, is essential to the cure of delirium tremens. To the terms sthenic and asthenic, as they are employed by Dr B., we profess to be entirely averse.

We pass by what the author has said under the heads of prognosis and diagnosis, in which we find nothing worthy of any particular remark, with the exception, that in regard to the former, Dr B. would appear to consider delirium tremens more generally of a fatal nature than experience has taught us to view it in this country, where under an appropriate treatment, in most cases, a favourable termination is very readily procured; nor can we accede to the justness of his remark, that in the first attack the prognosis is much less favourable than in the second, or more particularly in the third.

In the next section, entitled "Epikrise," are contained the views of the author on the pathology of delirium tremens, which are introduced by a summary of all the morbid appearances he has met with in the bodies of those who had died by this disease. These appearances were as follows: 1. When the disease had been of the asthenic form, he discovered in one instance a very striking emptiness of the vessels of the brain, but more frequently the diminution in the quantity of the blood was less considerable: the blood vessels augmented in size were moderately filled, particularly the veins—but no symptoms of actual engorgement presented themselves. The arteries did not appear to have taken any separate share in the disease—there being no appearance of abnormal vessels—no unusual fulness of the capillaries—no serous effusion—no recent exudation of coagulable lymph. The sinus of the dura mater, and the veins which empty into it, morbidly enlarged, were, however, distended with blood. In one instance the latter were found augmented in size in their whole extent; "from their origin in

the substance of the brain, in their course through the arachnoid membrane, until their termination in the sinus, they were frequently of the size of a crow quill, while those on the inner surface of the ventricles were as thick as a common pin; others appeared to be partly varicose, so that the brain presented when cut into, an appearance as though it had been pierced with small holes. Sometimes the brain had a firm and tough texture as if it had been soaked in spirits. Whenever there was a deficiency of blood the colour of the brain was unaltered; when the vessels were filled, the medullary portion was of a yellowish colour and the cortical of a clayey appearance. The arachnoid membrane, particularly at the upper part of the brain, was somewhat thickened, sometimes even opaque, and here and there, especially along the upper edges of the hemispheres, on both sides of the falx cerebri, was beset with granulations of lymph, which from their firm consistency, had evidently been effused for a considerable time. The pia mater was not strikingly increased in redness. The plexus choroides contained in some places small hydatids. Some of the bones at the basis of the skull, particularly the sella turcica, were found in a condition approaching to caries, or at least were of an unhealthy appearance." —Page 68 et seq.

The foregoing morbid appearances Dr B. does not consider as the product of the last attack of delirium tremens, but to have existed for some time previous to its occurrence; they have been found, he remarks, in the brains of drunkards who have died of tabes, and who had never suffered an attack of delirium tremens, as well as of those who have not been drunkards, and had not even been affected with an acute disease of the brain, nor any other from which their production could be anticipated. In many cases of delirium tremens also, they are entirely absent. "I consider them," he adds, "as the product of a repeated morbid irritation of the brain, caused by the use of ardent spirits, and of the invariable consequence of such irritation, a congestion towards the head. It is true that this irritation leaves behind it no very perceptible traces in the brain, until it has been frequently repeated;—from the derangement, however, it produces in the brain, at first functional, but by a longer continuance, or more frequent repetition, organic, it is probable that the predisposition to delirium tremens is produced; hence it is indifferent, as it regards the occurrence of this disease, whether these evident alterations of structure precede or not, as they are in some degree to be considered the

material evidence of an existing predisposition (als materiellen ausdruch der vorhandenen disposition). In young subjects, who have not been long addicted to intoxication, the alterations alluded to escape our senses, but this is seldom the case in old drunkards." —Pp. 75, 6. Dr B. conceives that the predisposition arising from this functional or organic derangement of the brain, explains the manner in which delirium tremens, particularly the symptomatic, may be induced even in individuals who have for a considerable time renounced their habits of intemperance.

2. In the sthenic form of the disease, besides the morbid appearances already described, but to a greater extent, were also found, general turgescence of the capillaries, as well venous as arterial, particularly an overfulness of the abnormal vessels formed in the arachnoid membrane, the smallest and most delicate arteries of which appeared to approach in size to the largest of the veins, which latter were also greatly augmented in number and size. There was often reddening of the pia mater and substance of the brain, from the great amount of their minute blood vessels, filled with blood of a bright red colour. Beneath the more or less opaque arachnoides were frequently found many ounces of a clear serous exudation; the same was also found in the cavity of the ventricles and at the basis of the cranium. Dr B. never met with any traces of recently effused coagulable lymph. In one instance the carotids in their whole extent presented an inflammatory redness of their inner membrane. The foregoing evidences of an increased activity of the blood vessels within the cranium are presumed to have been produced during the last occurrence of delirium tremens, but so far from having constituted its cause, it is supposed to be far more probable that they were produced during, and as an effect of, the last attack.—Page 71, et seq. They are believed to partake more of the character of congestion than of inflammation. "Where, however," says our author, "the limits are to be drawn in these cases, between congestion and inflammation I must leave undetermined. Dr ANDREE* represents the increased activity of the vessels of the brain and its membranes which occurs in delerium tremens, as an *asthenic inflammation*, which idea may, in many cases, be perfectly correct, but it certainly admits of no general and

* Hufeland und Osann's Jour. 1824, ap. und May stük.

invariable application in practice. More correctly LIND denominates it serous inflammation; but I must remark that the supposition of inflammation of any kind, in many cases of even sthenic delirium tremens, is not admissible, and were it generally acted upon would readily lead to errors of practice."—Page 73. ARMSTRONG considers the state of the brain alluded to as most commonly of a congestive character. The congestion of the meningeal vessels of the brain in delirium tremens we find noticed also in the dissections of FRANK, SPERANZA, BLACK, and others, whose names are not mentioned in the work before us.

3. In some cases of the sthenic form of the disease, occurring in young subjects, the morbid appearances first above noticed (paragraph 1) were not discovered after death, but the brain presented the indisputable indications of an *acute inflammation* having immediately preceded death; viz. redness of portions of the arachnoid membrane, caused by fine vessels the product of disease, unusual turgescence of the vessels of the pia mater and substance of the brain, and a morbid effusion of serum in every part within the cranium.—Page 74.

The morbid appearances described in the two preceding paragraphs (2, 3) are very frequently absent; they are found only after the sthenic form of the disease, and even then not always collectively.

"They are therefore," remarks our author, "with as little propriety to be considered the immediate cause of delirium tremens, as the same symptoms when they occur, for example, in mania and in typhus fever, or as the BROUSSAISAN gastro-enteritis in most fevers, can be presumed to point out the nature of these diseases. They are purely the product of the last attack, and can only serve as a proof of the fact, doubted by so many, that the brain is actually interested in the disease, and that the vascular system, especially of the latter organ, can frequently so far participate in it, that an irritating treatment, or one calculated to increase the determination of blood to the brain, can never be admissible; as such treatment will certainly tend still more to increase the action of the cerebral vessels, even sometimes carrying it to the extent of inflammation."—Page 77.

It is the opinion of Dr B. that in the disease under consideration, similar alterations to those found in the brain and its meninges, exist also in the spinal marrow, the ganglions, and the other parts of the nervous system, though he cannot absolutely say that he has detected them in the dead body, in consequence of his having heretofore had no opportunity of examining into the fact.

"Besides the alterations which have been described as occurring in the brain and its membranes, morbid appearances were discovered also in other important organs, particularly in the liver and spleen, both of which are, it is well known, often the seats of disease in drunkards; I have likewise found the mucous coat of the stomach and trachea reddened. The latter remark is also made by LIND. I have, however, to regret, that in all the cases in which the head was examined, permission could not be obtained to examine the other cavities."

Dr B. considers delirium tremens, as indicated by the well known symptoms, to be a peculiarly characterized disturbance of the intellectual and sensorial functions, and of the whole nervous system, arising from a morbid excitement or irritation of the brain and nerves, produced by a specific cause; viz. habitual intemperance in the use of ardent spirits.

"Concerning the precise nature of this disturbance we know as little as we do in relation to that of our sensorial or intellectual faculties generally, either in health or disease. The excitation of the brain in certain cases of delirium tremens, as well as of phrenzy, may give rise not merely to congestion, but to actual, or at least a serous inflammation of the brain; for to these cases is applicable the almost proverbial expression, 'ubi irritatio ibi affluxus.' This morbid condition of the blood vessels is, nevertheless, not always necessary in order to produce the disease in its fullest extent. In first attacks delirium tremens has more resemblance to phrenitis, subsequently it has a greater affinity to what are termed diseases of the mind, particularly mania, of which the acute form appears to constitute a species. According to my views of the disease, therefore, its most proper place in nosology will be between mania and phrenitis. In common with the former, it has the primary disturbance of the intellectual and sensorial functions, but differs from it in the circumstance of mania being very frequently unattended with any disturbance of the general system, which is seldom, perhaps never, the case with delirium tremens; in this last it resembles phrenitis, while it differs from it in the absence of the invariable and original inflammatory character of the latter. Chronic delirium tremens is scarcely to be distinguished from mania."—Page 79.

Dr B. knows of no more adequate comparison for the disease, than with a fit of intoxication; both having great analogy to each other, as well in their cause as in their symptoms, with the exception that both the action of the cause and its effects are more permanent in the former than in the latter; what in this, particularly where only of occasional occurrence, appears to be simply the effect of the excess immediately preceding, is in that the conjoined

effects of frequent fits of intoxication, and of the constant influence of these effects upon the nervous system, particularly the brain. "It is not surprising therefore," he adds, "that such effects should continue for a longer period in delirium tremens, than during a fit of intoxication, and that from the highest grade of habitual excess, a chronic or rather perpetual delirium tremens should result."—Pp. 79, et seq.

We proceed now to a consideration of the treatment of delirium tremens, founded upon the foregoing pathological views.

The author commences this section with some very pertinent observations upon the impropriety and even injurious consequences, of attempting to confine the patient to his bed, or of subjecting him to any personal restraint. He notices, what must have struck every one the least conversant with the disease, that the patients labouring under it are far more obedient to strangers than to their relatives and ordinary attendants, and are more readily controlled in an hospital than in their own dwellings.

The remedies for delirium tremens differ, according as it appears under the sthenic or asthenic form. When the former is the case, the indications of cure are, to calm the highly excited condition of the nervous system, to reduce the immoderate activity of the brain and nerves, and at the same time to appease the disturbance of the vascular system generally present; or at least to divert the congestion of blood from the brain; holding in mind, however, that the disease has a constant tendency to asthenia or collapse. To fulfil these indications will be demanded:

1. *Antiphlogistics.* The cure of the disease is not to be expected from them alone; they are adapted to those cases only in which the vascular system is implicated, and in their employment demand great judgment, as well in regard to their selection, as to the extent to which they are to be carried; otherwise they may quickly induce exhaustion, the occurrence of which, in this disease, is always to be dreaded. *General bleeding*, when the necessity for its employment is not perfectly clear, Dr B. conceives had better be omitted; as its possible advantages will be greatly overbalanced by the bad effects which may result from it: he having seen it, when the disease is fully formed, most generally, produce a speedy collapse. He therefore restricts its use to the primary stage of those cases which occur in young and robust subjects who have not before been affected with the disease; especially when these are attended with a

sense of ebullition in the blood; a full, strong pulse; vertigo; singing in the ears; great anxiety, &c. Even when delirium tremens is complicated by the presence of a local inflammation, especially of the brain or lungs, *topical depletion*, blisters, and appropriate remedies internally, are in most cases to be preferred to venesection. When decided symptoms of cerebral congestion exist, Dr B. has derived great advantage from leeches applied to the head. Even topical bleeding, however, from the danger of its producing a collapse, must be employed with much caution. *Purgatives*, particularly the saline articles of this class, are considered to be useful in those cases only, in which the disease remains for weeks in its forming stage, especially when accompanied with great tendency to constipation and foulness of the tongue; but under other circumstances, they seldom do good, and may be prejudicial from their debilitating effects.

2. *Acids*. Of these, Dr B. has only employed the sulphuric in the form of the elixir acidum Halleri: he considers this one of the best remedies in cases in which the disease is not yet fully formed, with great tendency to increased perspiration, considerable vertigo, singing in the ears, &c. In some instances the use of the acid is to be preceded by a purgative or even by venesection.

3. *Nauseating remedies*. "Of these," says Dr B., "I have as yet only employed the tartarized antimony, and with such decided advantage, that in the sthenic form of delirium tremens, I know of no remedy that can be compared to it. Its effects here may almost be denominated specific. Administered in such doses as to excite nausea, it unites in itself the three-fold character of a derivative, a sedative, and consequently, an indirect antiphlogistic; reducing the morbid activity of the nervous and arterial systems, and counteracting the determination to the brain; its use being, at the same time, unattended by any of the danger to be feared from opium or the lancet. I have administered the antimony in every stage of the disease, and know of no other counter indication to its use than the symptoms of the asthenic form."—Page 98.

When there exists foulness of the stomach, Dr B. administers the tartarized antimony first as an emetic, and subsequently, or when such is not the case, he directs five grains to be dissolved in five ounces of distilled water, of which the patient is to take a spoonful every hour or two; no bad effects being produced, after from twelve to twenty-four hours he increases the antimony one grain, or in very urgent cases to ten grains for the five ounce solution; if still no sickness be pro-

duced, or if the nauseating effects cease, in consequence of the patient becoming habituated to the remedy, the antimony is increased in each subsequent solution one grain, and in urgent cases to five grains, until the desired effects are produced: these often take place after five grains, but occasionally not until twenty or more have been taken. The symptoms of the disease now diminish, the patient feels inclined to sleep, lays himself willingly in bed, and soon falls into a natural slumber. If the sleep thus induced should not be of sufficient duration to effect an entire removal of the disease, the cure will be completed by the exhibition of a few grains of Dover's powders at bed-time. If the antimony acts too much upon the bowels Dr B. adds to each solution ten drops of laudanum. He in general continues the use of the antimony for about a day after the disappearance of the disease, in smaller doses and at longer intervals, to prevent the patient from being too suddenly withdrawn from the influence of the remedy. The only inconvenience which has resulted from the employment of tartarized antimony, in the hands of the author, has been, that when given in large doses or in too concentrated a solution, it has sometimes occasioned an inflammation of the mucous membrane of the tongue, fauces and trachea, and a crop of small pustules similar to those arising from its external application. These, however, we are assured, soon disappear of themselves without injurious consequences, and their occurrence may be prevented by a greater dilution of the remedy or by administering it in mucilage. But as tartar emetic when given in too large doses has been known to produce mischievous effects upon the mucous membrane of the stomach and bowels, Dr B. never allows more that ten to twelve grains to be given within the twenty-four hours, and very often five to eight grains have been sufficient. This remedy is conceived to be one peculiarly adapted to cases of delirium tremens complicated with rheumatism, or inflammation of the lungs, pleura, &c. Professor LUDERS is said to have employed the antimony in the disease before us with good effects*, and in the review of GÖDEN's writings, contained in the April number, 1827, of HUFELAND and OSANN's "Bibliothek der Praktischen Heilkunde," page 192, the writer informs us that he has never failed to remove

* In favour of the use of nauseating doses of tartarized antimony in delirium tremens, the names of D'OLEIRE, VON DEM BUSCH, MULLER, SCHMIDT, and LUCE are adduced.

the most severe attacks of delirium tremens by the following prescription, administered in such doses, every hour, as to induce nausea: ℞. Infusi ipecacuanhæ e. ℥ii. radic. parat. ℥vii. col. dissolve crem. tart. ℥i. oxym. scillit. ℥ii. In relation to the foregoing practice, which is scarcely known in this country, we have, ourselves, had but little experience—that little, however, is in its favour.

4. *Cold applications to the head.* These are of decided benefit, especially in cases with symptoms of cerebral congestion. With respect to diet, Dr B. directs the patient, in this form of the disease, to be confined to aqueous and mucilaginous drinks, weak water soup, and a little wheat bread.—Page 87 et seq.*

In the asthenic form of delirium tremens, the indications are, to diminish the excitement of the brain and whole nervous system by such means as shall not at the same time tend to increase the general debility, but which will in some measure replace the stimulus to which the patient has been habituated. According to our author no remedy fulfils this intention, in the greater number of cases, so effectually as opium; the employment of which he restricts entirely to this form of the disease. He had previously asserted, page 91, that "if opium be given in the sthenic form of delirium tremens, it will be found that by small and medium doses the excitement of the patient will be increased, and that very large doses must be administered before sleep can be induced,"—"and no physician ought to be surprised, should his patient by such treatment be sunk into sopor and everlasting sleep; even when such an event does not occur, the cure of the patient is not always obtained by the sleep thus forcibly obtained. I have occasionally observed, on the contrary, that even when the sleep has continued with little interruption for two days and as many nights, when the patient awoke, the disease has still remained, or else after a short intermission has again returned. It is a happy circumstance in regard to the ex-

* It is stated that in Friedrich's Hospital, Copenhagen, when delirium tremens was treated partially by antiphlogistics, with personal restraint of the patients, in 1820, 1 out of every 4 died, and in 1821, 1 out of 4 2-7ths; but in 1822, when a more strict antiphlogistic treatment was pursued under the direction of professor Herholdt, the patients being allowed their liberty, only 1 died out of 9 4-5ths, in 1823, 1 out of 12, and in 1824, 1 out of 9 2-3ds. In the same institution an exciting treatment, (by opium and stimulants we presume is meant) without distinction of the cases, gave as its result, in 1817, 1 death out of every 2 3-4ths patients—in 1818, 1 out of 2 4-9ths, and in 1819, 1 out of 2 10-11ths.

cessive use of opium in delirium tremens that the attack which at first assumes the sthenic form, may in its course become readily asthenic; and hence the treatment which was improper in its commencement, in consequence of this change in the character of the disease, may finally effect its cure. Did not this tendency to asthenia and collapse constitute a part of the character of the disease, a proportionally greater number of patients would undoubtedly sink under the opium practice."

But while Dr B. admits that opium is almost the only remedy adapted to the cure of delirium tremens, in its asthenic form, yet even here he is extremely reserved in its administration; and he reprobates in no very mild terms the extent to which others have believed themselves authorized from experience to carry it. With the late Dr Albers he commences with it in half grain doses repeated every two hours; if these have not the desired effect, the opium is increased to one grain at the same intervals; and if sleep be still not procured, and the case is one of great emergency, two grains are then administered every two hours; but he seldom allows the remedy in this extent to be repeated oftener than four times; when, if the disease still continues, the quantity of the opium is reduced to a grain, or even half a grain, and in this dose continued until the termination of the attack, provided nothing occurs to contraindicate its employment. In most cases he has found that half a grain every two hours soon procures a critical sleep; but when this dose is found ineffectual, a larger dose administered at bed time will more generally succeed. The remedy is directed to be continued in diminished quantity for a day or two subsequent to the removal of the disease, in order to guard against a relapse.

What may have been the actual success of the foregoing treatment in the hands of our author, it is impossible to say; no data being furnished from which any thing like a correct judgment can be formed. In very many of the cases of delirium tremens which have occurred under our own observation, we feel no hesitation in saying, that had we restricted ourselves to the doses of opium which Dr B. has recommended, no benefit whatever would have been produced. Experience has taught us, and the observations of others have confirmed the fact, that not unfrequently the safety of the patient demands the employment of large doses of the remedy in order that sleep may be promptly induced. In these cases, delay, or what amounts to the same, trifling doses of the opium is in

the highest degree dangerous; the patient being often permitted to die from mere exhaustion, when by an appropriate treatment a cure might have been readily effected. Dr B. appears to us to have run equally as much to one extreme, when from a fear of its injurious effects, he restricts the employment of opium in delirium tremens within such narrow limits, as they have to the opposite, who insist upon its liberal administration in every case, stage, and circumstance of the disease, and maintain that in this disease no evil can result from its use in almost any quantity. It must be admitted that the opium practice in delirium tremens, particularly to the extent to which it is sometimes necessary to carry it, requires much judgment and not a little caution in its management. Nothing should be left to chance, nothing to the discretion of the attendants; but from the moment it is commenced with, until sleep ensues, the eye of the physician should be removed from off his patient for as short a time as possible. By proper precaution, however, every possibility of danger is removed, and in few cases will the practice fail in effecting a cure.

Whether the different tinctures of opium produce other effects than the article in substance, Dr B. is unable to say; the former he thinks may perhaps be preferable when the patient rejects the latter by vomiting. This rejection, however, Dr SCHMIDT, Sen. is said always to have prevented by combining the opium with an acid. We would recommend that in this, as well as in every other disease in which it is necessary to administer opium in repeated doses, it be given in powder, or rubbed up with mucilage of gum arabic.

The other remedies which have been proposed for the cure of asthenic delirium tremens, as camphor, volatile alkali, musk, digitalis, &c. are next considered, but as they are confessed to be in every respect inferior to opium, under the ordinary circumstances of the disease, it is unnecessary to notice the observations of the author in regard to them.

To the use of ardent spirits as a remedy in delirium tremens Dr B. very properly objects. "Even as a prophylactic their use is justifiable," he remarks, "only in worn out subjects, and in very moderate doses." From external derivatives, as blisters, sinapisms, &c. he would anticipate good effects in cases attended with cerebral congestion; and in those complicated with local inflammations, particularly of the liver or lungs, he directs their application in the neighbourhood of the affected organ: blisters have also ap-

peared to him to be of great service in removing the affection of the head, ringing of the ears, &c. which frequently continues after the removal of the delirium.

For diet he directs water gruel, thin sago, oat meal gruel, &c. with a moderate quantity of animal broth, and wheat bread.—Page 107 et seq.

Under the head of "treatment of symptomatic delirium tremens," we meet with nothing new or very interesting; and the same may be said in relation to the observations upon the treatment of the chronic form of the disease. We close our analysis with the remarks of Dr B. upon the emetic practice as recommended by Dr J. Klapp of this city.

"The good effects of emetics in many cases of delirium tremens, in which a foulness of the primæ viæ calls for their employment, is incontestable. As a remedy for the disease, Albers, before he had made trial of them, anticipated great advantage from their exhibition, and determined to resort to them the first opportunity that presented itself; this occurred a short time before his death, in a case which he attended in conjunction with myself: but the fatal termination in this instance gave to him such a distrust of emetics that he determined never again to make trial of them in this disease. Göden recommends their employment only in the commencement of the attack, not to evacuate sordes, but as a nervine, in which manner he presumes they act from the agitation they produce in the cardiac plexus. In the review of the works of this author in the 'Literary Gazette of Leipzig,' the effects of emetics are also praised in the beginning of those cases suddenly induced by some mental emotion; both the latter opinions appear to be correct. But when some practitioners recommend the use of emetics in cases preceded by an epileptic fit, I, on the other hand, can only say that I have often prescribed them under such circumstances, and but in one instance, with the least advantage; others again insist upon their use in every case of the disease; but even these will be obliged to admit that, although frequently repeated, they often produce no effect, or at least that they will not alone effect a cure, and that in the asthenic form of the disease their repeated employment will tend to accelerate a collapse." "The good effects resulting from emetics in delirium tremens will be found solely confined to those cases which owe their origin to disorder of the stomach, or at least, in which gastric symptoms predominate, as is frequently the case when the disease is brought on by some mental excitement."—Pp. 116, 117.

The volume closes with the detail of twenty-five cases of the disease, variously treated, eleven of which terminated fatally.

Our opinion of Dr B.'s "observations" will be readily collected from what has been already said: although we differ from him widely on many important points, we nevertheless recommend the work as one deserving of an attentive perusal, and as better calculated to lead to a rational treatment of delirium tremens than any with which we have as yet met. We hope before long to see it in an English dress. φ. κ.

Article XII.—*Medico-Chirurgical Transactions. Vol. XIV. Part II.*

We continue our notice of the 14th volume of the Transactions of the Medico-Chirurgical Society—having in our last analyzed the first part of this valuable production. The second part commences with a long but excellent paper, containing,

Pathological and surgical observations relating to injuries of the brain; by B. C. Brodie, F.R.S. Surgeon to St George's Hospital.

As the object of the distinguished author is to present a distinct and connected view of all the parts of this curious and interesting inquiry for the benefit of the surgical student, we shall follow his course very closely, although we may notice subjects familiar to most of our readers. To all, however, it will be useful to know the opinions of an English surgeon of reputation on matters of great importance.

The present communication embraces only *the immediate consequences* of injuries of the head; the secondary consequences, or those resulting from inflammation, are reserved for another period. Of the immediate consequences of contusions and wounds, a distinction is to be drawn between the actual derangement or destruction of the natural organization as evinced by dissection, and the symptoms arising from the disturbance of the functions of the injured organs, at the same time keeping in view the mutual connection of these two orders of facts, that a correct pathology may be instituted for practical purposes.

Dissection manifests various appearances. They may be classed under distinct heads—as,

1. Extravasation of blood under one or more of the tissues forming the scalp. When under the pericranium, the feeling is similar to that of depressed bone.

2. The scalp is sometimes lacerated so as to expose the pericranium, or this last membrane is torn so as to expose the bone. These accidents are more serious than the former.

3. The dura mater is sometimes separated from the bone, with a consequent rupture of the small connecting vessels and extravasation of blood.

4. Fractures of every variety are found. Those at the base of the cranium are more dangerous because almost invariably complicated with extensive injury of other and more important parts. Fractures per contre-coup may occur but are not so common as supposed by the French. Mr Earle has noticed a fracture of this kind only where the occiput has been forcibly impelled against the atlas. In this Mr Brodie's experience coincides with Mr Earle's. In all cases where depression exists, the inner table is always broken to a greater extent than the external, and hence the actual depression is greater than the external fracture would indicate. In many cases also there is a distinct depression of the inner table and even splinters driven into the substance of the brain, where a simple fissure and no depression existed in the outer table. These phenomena seem dependent on the greater brittleness of the inner table and the greater elasticity of the outer table.

5. In young children there may be an indentation without fracture—and this in a few days may disappear without the assistance of the surgeon—owing probably to the pulsations of the brain.

6. The sutures may be found separated. This is owing to great violence, and therefore more rare than fractures, and more dangerous.

7. Extravasations of blood may occur within the cranium in various situations. 1st. Between bone and dura mater from rupture of capillary vessels—or of middle meningeal artery. The last is the only source of dangerous compression;—this vessel may occasionally be ruptured without fracture. 2d. Blood may be effused under dura mater; then generally in the arachnoid cavity—rarely in the ventricles; occasionally in the substance of the brain or in the cellular tissue of the pia mater. This occurs more frequently at

the base of the cranium, and generally from rupture of the substance of the brain by contre-coup. Wounds of the sinuses bleed profusely, but the hemorrhage is easily arrested, so that dangerous compression is hence very rare. Blood is sometimes discharged from the ear;—in a few cases, Mr Brodie has known this to arise from a laceration of the lateral sinus near the external meatus and on the inner surface of the mastoid portion. In another case, where there was hemorrhage from both the ear and the nostrils, examination after death exhibited a rupture of the cavernous sinus with fracture of the base of the cranium.

8. The brain is liable to all kinds of wounds, which are often complicated with the effects of contusion.

Such are some of the injuries of the brain and its appendages as revealed by dissection; but bad consequences may immediately result from contusions, and the patient even be destroyed, without "the most accurate anatomist" being able to discover any lesion in the brain or its membranes. This partial or total suspension of the cerebral functions is termed *concussion of the brain*;—the symptoms need not here be detailed. Although Mr Brodie affirms that "the brain appears to retain its natural structure unimpaired," yet he says, "it is difficult to conceive in what other manner concussion of the brain can operate" than by a derangement of organization; and hence he *supposes* that the minute ultimate structure of the brain may be altered without our senses being able to recognise it; and of course, that where individuals recover from a momentary or transitory concussion, there has been as speedy a reparation of such structural derangement. Such a supposition *may be* true: but we must deem all hypotheses of this kind not only unphilosophical, but useless. We are in reality no wiser on the supposition of our author, than if we believed that function may cease while organization is perfect. When the heart ceases to beat, a muscle to contract, or the skin to perspire, we have in most cases not the least foundation for the supposition that organization is disturbed: and when a man is stunned by a blow on the head and instantaneously recovers his cerebral functions, why should we infer that the medullary or cortical mass has been structurally disturbed and in a moment has had its integrity restored? Hence, although an alteration of structure necessarily causes a disturbance of functions, yet, as far as we know, function may be disturbed or even permanently destroyed without

alteration of structure. This doctrine we conceive to be of importance.

The disturbance of the heart during concussion Mr Brodie would refer, not to any necessary dependence of the actions of the heart on the influence of the brain, which he would deny, but to the connection and sympathy existing between different organs. He nevertheless would refer the immediate cause of death from concussion to the disturbance of the heart's action. We would, however, ask if the brain is not a *vital* organ as well as the heart, and why a suspension of its functions may not be therefore as certainly and as speedily fatal as a suspension of the heart's actions? This disposition to exalt the circulatory system to an undue importance in the animal economy, is still manifested by the disciples of the English school, and is continually exhibited, we think, by the present medical revolutionists of France, notwithstanding all that is said and written on irritation.

Compression of the brain arises either from a diminution of the cavity of the cranium, as in depression of bone, or from an actual increase of the contents of the cranium, as from effusion of blood, &c. In such cases the functions of the brain become impaired. "This is a matter of experience and observation, about which there is no dispute." Mr Bell, however, has affirmed that the substance of the brain is incapable of compression, and that the symptoms are owing to the diminution of the size of the blood vessels preventing the supply of arterial blood which is necessary for its functions. But it is true, that symptoms of compression will arise from a preternatural determination of blood to the head, the vessels being over loaded; and that such cases are relieved by bleeding, as if distended vessels would cause effects similar to those from extravasation of blood. Again, although Mr Brodie admits that the substance of the brain is incompressible, yet the effects of pressure must be to alter the position and relative situation of the delicate fibres of which its minute structure is composed.

As to the symptoms of compression, surgeons well know the difficulty of distinguishing them from those of concussion. Mr B. notices them under several heads.

1. *Pain in the head.* This is also experienced in concussion: that it may arise solely from pressure is proved by the fact, that it has ceased immediately on elevating a portion of depressed bone.

2. *Insensibility* is often incomplete, as in concussion. Sometimes it is perfect. When from depression of bone, it occurs immediately; when from extravasation, more gradually, and often some time elapses before the patient becomes insensible. Occasionally there is insensibility from concussion, then the patient recovers and again becomes insensible from compression. Mr Brodie does not believe that the cause of the insensibility, whether from concussion or compression, can be distinguished by the symptoms. He presents a case of compression from effused blood, as proved by dissection, in which the symptoms were similar to those of concussion, as detailed by Mr Abernethy. There is often merely partial loss of sensibility, owing to pressure made on particular nerves.

3. *Paralysis* occurs in the muscles of voluntary motion; in the bladder; in the sphincter ani; in the muscles of respiration also; whence stertor and contraction of the diaphragm at longer and longer intervals until respiration ceases. "It is this paralysis of the muscles of respiration which, in ordinary cases of pressure on the brain, is the immediate cause of death." There is often hemiplégia, and this is sometimes permanent; but it is a more rare occurrence after accidents than in cases of apoplexy, as in these last, the effusion is more frequently in the ventricles, or substance of the brain. Particular muscles may be paralyzed. Mr B. has never met with an exception to the observation, that hemiplegia occurs on the side opposite to that on which the effusion has occurred.

4. *Convulsive motions* often appear on the side opposite to that paralysed. Mr B. doubts whether they are attributable to pressure on the brain; but would refer them to wounds, or laceration of this organ. They are to be distinguished from general convulsions.

5. *Affections of the pupils.* The state of the pupils varies exceedingly, without our being able to explain the reason, the circumstances being often apparently similar. They are usually dilated; often contracted. Sometimes one pupil is dilated, and the other contracted. When dilated they sometimes contract immediately after the abstraction of blood, and then enlarge as the effects of the bleeding cease. Mr B. has known the pupils sensible to light while the patient remained in a state of complete insensibility; and also there may be insensibility of one of the pupils without general insensibility, and even without loss of vision.

6. *Affection of the circulation* is sometimes, but not always observed. The contractions of the heart are generally less frequent or less forcible than natural. In some cases the strength and activity of the pulse will be instantaneously restored on the removal of the pressure, as when a depressed bone is elevated. An intermittent pulse, according to Mr ABERNETHY, is a less frequent occurrence in cases of compression than in those of concussion of the brain.

7. *Sickness and vomiting.* Mr BRODIE doubts whether these should be ever referred to pressure on the brain. They are more probably dependent on concussion; as when compression is greatest there is no disposition to vomit, and sickness and vomiting have occurred immediately after pressure has been removed.

The symptoms of compressed brain vary exceedingly, not only according to their intensity, but as they happen to be variously combined. The prognosis is very uncertain; under apparently similar circumstances, some individuals soon recover, others speedily die, while others who survive are paralytic or otherwise injured for years. Mr BRODIE has met with one case in which he was led to believe that the patient perished from secondary hemorrhage within the cavity of the cranium.

Wounds of the brain and its membranes. Wounds of the membranes greatly aggravate the ultimate danger of the case, but do not add to the immediate symptoms, and these alone are now considered.

Wounds of the substance of the brain are usually complicated with the effects of concussion or compression of the cerebral mass; so that it is impossible to predict the consequences of a wound of a given extent in any given situation. In many cases also of punctured, incised, and lacerated wounds, the functions of the brain are not at all impaired, and often, even large portions of this organ are lost while the mental and corporeal functions remain apparently uninjured. Mr BRODIE is, however, inclined to the opinion, that convulsive motions and other indications of injured brain, may occur from punctured or lacerated wounds when no concussion or compression has been suffered.

Other immediate consequences of injured brain.

1. *Partial nervous affections.* Concussions of the brain are sometimes followed by partial or complete loss of the sense of

hearing or of smell, of sight or of taste; the nerves of other organs retaining their usual susceptibilities.

Dr HENNEN gives a case of an individual deprived of his sexual powers by a blow on the occiput; and mentions that the powers of speech are often lost, while those of memory remain; and in numerous cases, "patients have told me that they could hear distinctly what I said, and distinguish my voice from that of others, and have repeated my words as a proof both of this fact and of their retention of memory, while they could not distinguish my person or give utterance to their thoughts*."

II. *Convulsions.* These are of an epileptic character, but are not uniformly followed by a state of profound sleep or stupor. They are more formidable in appearance than in reality, as patients often recover without any unfavourable symptoms. They generally occur soon after the accident, but sometimes not for several days, and may then be dependent on inflammatory irritation. That these convulsions are generally the result of a moderate degree of pressure appears from several circumstances to be probable; as

1. In experiments on animals Mr B. has found, that wounds of the base of the brain, causing extravasation of blood, usually produce convulsions before stupor, paralysis, and death.

2. Concussion ensues instantaneously, but convulsions never occur until after a certain lapse of time, allowing an opportunity for effusion.

3. Convulsions continuing for some time have been cured by trephining and by removing coagula of blood. Convulsions will also occur after the symptoms of stupor and insensibility have been relieved by means of depletion, &c. showing that they are manifested only under certain degrees of compression of the brain.

III. *Furious delirium.* This is often raving and unmanageable, and might be supposed dependent on concussion; but there is reason to believe that it occurs under nearly parallel circumstances as convulsions. For although there may not be any very evident symptoms of compression, yet from the effects of bleeding, and from the fact that it is often immediately relieved by removing compression when its existence is positively known, there is reason to con-

* HENNEN's Military Surgery, page 305.

clude, that this delirium is the result of that degree of pressure which operates merely as a source of irritation. Mr Brodie details valuable cases illustrative of the above observations.

Treatment of concussion of the brain.—Of the two opposite modes of treatment adopted in simple concussion of the brain, Mr Brodie recommends very decidedly the depleting plan, confining the exhibition of cordials and stimulants to those cases in which the patient is manifestly sinking. The depressed condition of the circulation is desirable, as it lessens the danger of effusion: and when, as usual, after depression, a state of excitement ensues, bleeding becomes necessary to arrest or check effusion of blood and to prevent inflammation. This remedy is to be assisted by other portions of the antiphlogistic plan, rest, elevated position of head, cold applications, laxatives, &c.

Mr Brodie cautions against a too free evacuation of blood, as a train of symptoms sometimes occur from such loss, which may be attributed by the ignorant to the effects of the injury*. Under such circumstances, patients will recover on being allowed solid nourishment, with occasional doses of the carbonate of ammonia.

Treatment of compression of the brain, not complicated with wounds of the brain or its membranes.

When symptoms endanger life, the cause, if possible, should be removed. When there is fracture with depression and a wound of the scalp, the surgeon may at once operate and raise the bone; and when the scalp remains entire, it must be divided, that the bone be completely exposed. So, also, the trephine is necessary when the symptoms of hemorrhage depend on effusion between the dura mater and bone. This seldom occurs unless the middle meningeal artery is injured, hence, as a general rule, we should operate over the tract of this vessel. Mr Abernethy's test will here be sometimes useful. Mr Brodie advises, that when the trephine is applied for extravasation of blood, exterior to the dura mater, a large portion of bone should be removed, as suppuration will result from the whole surface of the detached portion of the dura mater, and the pus would collect under the bone, giving rise to symptoms of pressure on the brain and extending the inflam-

* Vide Marshal Hall's paper, vol. 13 of the Transactions, and Review of it, in vol. i. of the North American Medical and Surgical Journal.

mation to other parts. It would appear to us, however, that such confinement of matter could be prevented by a more simple and less objectionable method than removing large portions of the cranium.

When extravasation takes place under the dura mater, Mr Brodie recommends what may now be regarded as the common plan of treatment, viz. to depend on a decided antiphlogistic course in all moderate cases of compression; but in severe and desperate cases the surgeon should afford his patient the chance of recovery by puncturing the dura mater. The dangers of this simple operation are great, for reasons we had occasion to mention in a former review*; but sometimes the patient is immediately relieved, and ultimately survives. Two interesting cases of this character are detailed.

The above observations relate chiefly to examples where the symptoms of compressed brain are urgent: but it often happens in the experience of surgeons, that fractures of the cranium exist with depression, and yet few or no symptoms of compressed brain are manifested. As the condition of the patient in such cases does not indicate an immediate operation, the question arises, whether the depressed bone should or should not be elevated?

This important question can only be positively decided by reference to the history of numerous accidents of the kind here mentioned. Mr Brodie, after enumerating the dangers from exposing the dura mater in elevating the bone, and also the disadvantages and dangers which may result if the depression be allowed to remain, and after examining the various notes of cases which have fallen under his own notice, confirms the practical rule laid down by Sir Astley Cooper, viz: That in cases of simple fracture with depression, no operation is required: but that in cases of compound fracture, of fracture with wound of the scalp and with depression, the bone should be elevated; as in this case suppuration is inevitable, but in the former, it may frequently be avoided by a proper antiphlogistic course. It is true, however, that patients often do well when no operation is resorted to in compound fractures of the cranium, and that mischievous consequences frequently result when

* Vide North American Medical and Surgical Journal, Vol. I. p. 182.

simple fractures with depression have been trusted to antiphlogistic remedies alone. The general rule will nevertheless hold good.

Treatment of contusions and wounds of the scalp. In this Mr Brodie is not peculiar. He has met with two cases of extensive ecchymosis of the scalp; the swelling continuing to increase for days after the accident. In one, he arrested the swelling by a compress and bandage over a branch of the temporal artery which was supposed to be wounded. Both patients did well.

Treatment of fractures of the cranium without depression. The modern practice consists in a strict antiphlogistic plan, as being much more advantageous than trephining the cranium as recommended by Mr Pott. Mr Brodie makes some judicious criticisms on the reasons advanced by this distinguished authority for his frequent resort to this operation.

Treatment of wounds of the brain and its membranes. These demand no peculiar management, otherwise than a more steady and continued adoption of the remedies for preventing inordinate inflammation of the brain or its membranes, by which, effusions of serum and pus, gangrene and hernia cerebri, would be caused. Great care should be exercised not to increase the mischief by rude or injudicious attempts to remove splinters, to elevate depressed portions of bone or to remove foreign substances lodged in the substance of the brain. So many patients have recovered, notwithstanding such complicated wounds, that the general rule may be advanced, that active interference with such injuries of the brain, where there are no symptoms of compression, is not advisable. A judicious but decided course of depletory measures to prevent inflammation promises to be more advantageous.

Treatment of other consequences of injured brain. When any particular class of sensations is injured or impaired, as when deafness or a loss of smell or taste occurs, no practice has been found very useful. Patients often recover after a year or two;—but sometimes the affection remains.

When there is raving delirium, free bleeding has always afforded relief; and this is the proper remedy for convulsions, which are probably dependent upon the same state of the brain, especially when immediately succeeding the accident. If they occur at the expiration of some days from the time of the injury, they may depend on inflammation and demand the further use of the lancet. "But they may also exist independently of inflammation, being

aggravated by any additional abstraction of blood, and subsiding on the patient being allowed to take some more substantial nourishment than that which had been allowed him previously."

Analysis of a specimen of cutaneous perspiration; by J. Bostock, M.D. F.R.S.—It is perhaps well known that various circumstances have an influence over the nature of the cutaneous secretion. The character of this fluid, which often seems to be, as regards its quantity, in an inverse ratio with the urinary secretion, is therefore influenced in all probability by the nature of the urine, although differing from it in many respects; and there can perhaps be less doubt that both discharges vary exceedingly according to the state of the digestive apparatus. Professor Cooper of North Carolina states that he can render the perspiration and urine acid or alkaline at pleasure by the exhibition of acids or alkalies. Hence in disease we must expect an ever varying condition of these fluids in colour, quantity, and essential constituents. Mr Bostock had a good opportunity of analyzing a quantity (℥iv.) of perspirable fluid, presented to him by Dr Bright, from a patient suffering from irritation of the digestive and urinary organs, and who discharged large quantities of urine daily, and occasionally perspired so freely that the fluid passed through the bed and was collected in vessels. The composition was as follows:

Water	981.7
Animal matter	4.6
Muriate of soda	12.56
Soda	1.14
	1000.00
Phosphates and sulphates	a trace

The animal matter on examination contained a very small quantity, scarcely appreciable, of albumen, and also a brown, viscid substance, having some resemblance to urea and which may be characterized as intermediate between this principle and osmazome, or perhaps a combination of the two. Comparing this analysis with that of the serum of the blood as given by Marcet and Berzelius, the fluid of perspiration in this case differed from serum, in the smaller proportion of the solid contents, and especially in the almost total absence of albumen, while it agrees with it in containing a

considerable quantity of muriate of soda, a portion of uncombined soda, and a quantity of animal matter similar to that contained in serosity. It therefore belongs essentially to the class of serous fluids, notwithstanding the absence of albumen.

Of catarrhus æstivus or summer catarrh; by J. Bostock, M.D. F.R.S.—This is a variety of a catarrhal affection from which Dr Bostock has suffered much in his own person, and of which he has met with about eighteen cases. In all, the disease attacks annually in the summer season, is seated in the membrane lining the eyes, nose, fauces and vesicles of the lungs, and the symptoms are aggravated by exposure to heat, fatigue, or inordinate stimulation. The annual attack commences usually about the end of May or beginning of June, and continues from four to eight weeks. There is generally fulness of the head, stoppage of the nose, sneezing, watering of the eyes and discharge from the nostrils. In about half the cases respiration is affected, and in some cases it is the only symptom. In some there is a distinct cough, in others irritation of the throat, fauces or eyes. Occasionally there is no evidence of irritation of the eyes, not even a discharge of tears. The general indisposition is very various; often there is no inconvenience from the local affection, while in other cases, particularly where the lungs are involved, the patients are unable to continue their usual avocations.

Dr Bostock notices a prevalent opinion in England, that the exciting cause is owing to the effluvium from new hay. Hence the disease has been denominated *hay-fever;* but he discovers no ground for the supposition in his own case, but does not seem disposed to deny that others may have been influenced by this cause. He nevertheless believes that the disease is of a specific nature. This view is in some measure confirmed by its annual occurrence, and especially by the fact, that it is but little influenced by medical treatment. "With respect to the cure or mitigation of the complaint, I regret to say, that except in so far as we are able to avoid those circumstances which bring on the paroxysm, I have been able to obtain very little satisfactory evidence."—"The experience of many years has taught me not to expect a cure for the complaint, so that I now only aim at relieving any peculiarly urgent or distressing symptom. Bathing the eyes in tepid water and fomenting the face generally, occasionally applying small blisters to the chest,

mild purgatives, small doses of ipecacuanha, Dover's powder, squills and digitalis, bathing the feet in warm water, a moderate but not spare diet, perfect rest, and carefully avoiding all extremes of heat, comprise the whole of the means I have found useful to myself."—"Among those things which I have tried without success are bark, iron, opium, mercury, large blisters, topical bleeding, the waters of Harrowgate and Leamington, the baths of Bath and Buxton, sea-bathing, the shower bath, abstinence from wine and animal food, and a more free use of them; each of these having been made, as it may be said, the subject of distinct experiments, and persevered in, until some circumstances rendered it necessary to discontinue them, or until they produced a decidedly injurious effect."

We are acquainted with a gentleman of this city, now near seventy years of age, who for upwards of forty years has suffered an annual attack more or less severe of this summer catarrh. He generally suffers in August and September, and has for a long time abandoned, after many trials, the expectation of being cured.

Case of rupture of the stomach produced by vomiting; by J. N. Weeks, Esq.—This was the case of a man, George Andover, aged thirty-four years, and who had been liable for two years to paroxysms of pain in the stomach, but during the intervals was in tolerable good health. About Christmas, 1827, he vomited blood, by which he was much reduced, and his paroxysms were rendered more frequent. On the 13th of April, he was admitted into St Bartholomew's Hospital, suffering from great pain in the epigastric region, extending over the abdomen. On the following day the pain had subsided, there had been nausea but no vomiting. At 11 o'clock, P.M. he had a sudden attack of severe pain at the pit of the stomach—pulse depressed—great restlessness, and countenance expressive of great suffering. Pain continued for two or three hours, when he was suddenly seized with violent vomiting. The pain somewhat abated, there was no return of vomiting; he however sunk rapidly, and died at four o'clock in the morning.

Examination. Stomach flaccid and empty; its contents were effused into the cavity of the peritoneum through a rupture four inches in length, extending from below the lesser curvature of the stomach to near its cardiac extremity; the rupture in the peritoneal coat extending an inch farther than that in the muscular or mucous coat. On the posterior surface of the stomach, there was a lacera-

tion three inches in length; and two or three small ones from an inch to an inch and a half in length at the greater curvature, but they extended only through the peritoneal coat of the stomach, the muscular and mucous coats remaining perfectly whole. The mucous membrane was of a deep red colour throughout; its texture was softened and partially emphysematous, but the stomach in other respects appeared healthy.

A peculiarity of this case compared with those on record, is the extensive rupture of the stomach with so little disease of its coats; there was no thickening nor ulceration; there appeared to to be merely a recent inflammation and softening of the mucous coat. Another peculiarity was the laceration of the peritoneal coat without including the other tunics. Mr C. M. Clarke has recorded a similar example as regards the uterus, on the posterior surface of which organ he found a number of lacerations of the peritoneal covering, while the substance of the uterus was perfect.

Article XIII.—*Anatomie Comparée du Cerveau dans les Quatre Classes des Animaux Vertébrés, appliquée à la Physiologie et à la Pathologie du Système Nerveux. Par* E. R. A. Serres, *Medecin Ordinaire de l'Hopital de la Pitié, Professeur Agrégé de la Faculté de Medicine de Paris, &c. &c. Paris, Tome II.* 1826.

The first volume of M. Serres's work was published in 1824, and very fully reviewed in the first number of this Journal for January 1826. The volume now before us abounds more in physiological applications and illustrations drawn from pathology, than its predecessor. In both we find a continued enforcement of the author's favourite position, viz. the eccentric formation and growth of the nervous system, that is, from the circumference to the centre; and not, as long taught, from the centre to the circumference. That this was an opinion indirectly advocated by Bichat, Abernethy, Magendie, and Spurzheim, we endeavoured, in the article alluded to above, to show by extracts from their respective works

or lectures; at the same time that we had occasion to quote the adverse authority of TIEDEMANN. Another position maintained by M. SERRES was the prior formation of the arterial system, on the arrangement and distribution of which depended those of the nervous system. Among other facts in opposition to this view of the supremacy of the blood vessels, is that cited by Dr SPURZHEIM in his "Anatomy of the Brain". It was a case of a hydrocephalic child dissected by Dr BARON, and by him exhibited to the Academy of Medicine in Paris: he showed that, although the carotid arteries existed, the anterior cerebral lobes were wanting; a consequence not deducible from the premises as laid down by M. SERRES.

That the author may have all the weight with our readers to which his experimental observations entitle him, we shall, before taking up the consideration of the second volume, adduce some of those contained in the second part of the first, and which especially bear on the question of the eccentric growth of the nervous system. In his investigations into the origin and progressive development of the nerves called cerebral, he found that, in all of them, the part first formed in the fœtal state of the animal was at the sensitive surface of the organ to which they subsequently gave function; and that in proportion as the new being approached the epoch for its expulsion from the uterus, the nervous expansions and minuter twigs were joined in a cord which gradually approached the brain, and was finally inserted in or joined to that portion from which it is usually said to take its rise. In demonstrating this fact in the olfactory nerve, M. SERRES makes use of a new term, *olfactory field;* by which he means the space at the basis of the anterior lobes of the cerebrum, bounded outwardly by the external, inwardly by the internal fasciculus of the olfactory nerve; backwards by the junction of the optic nerves, and the anterior part of the lobe of the hippocampus; and forwards by the union of the two above mentioned fasciculi. This olfactory field, very small in man and the monkey, augments in size in the plantigrade, carnivorous animals, the bear, the pachydermata, the horse, and the ruminating animals. This enlargement, caused by the greater turn which the two fasciculi, especially the external, take before their insertion into the brain, corresponds, in the opinion of the author, with the development of the nasal fossæ, and the forward projection of the face. To the band formed by the union of the two olfactory fasciculi, he gives the name of *pedicle of the olfac-*

tory nerve, in preference to that of trunk or processus. By the term *olfactory lobule*, he means to designate an enlargement or swelling of the roots of the nerve at a distance from the cerebral hemispheres, varying in the different classes of animals.

The olfactory apparatus viewed at the base of the encephalon is composed, in the higher families of the mammifera, of four distinct parts, exclusive of the olfactory lobule, viz. 1. The olfactory pedicle: 2. Its roots, internal and external: 3. The olfactory field: 4. The lobe of the hippocampus.

The precise point of the insertion, or, as anatomists would generally say, of the origin of the olfactory nerve is not well determined. The most probable opinion is, M. Serres thinks, that first advanced by Malacarne, and adopted by Rolando and Blainville, of the connexions of this nerve with the external radiation of the anterior commissure. In man, we see the external root inserted by one of its bands into the external rays of this commissure. In some of the ruminantia, such as the goat and camel, the connexion is still more readily seen. In birds and reptiles it is less evident. In birds, M. Serres observed, that the posterior part of the external root was in part joined to the root of the radiating lamina of the hemispheres, and afterwards communicated with the pyramidal bands in passing above the prolongation of the optic lobes. They are deficient in the internal roots, and to a corresponding degree in the extent of the olfactory sense.

Pathology shows that if the olfactory field be materially affected by disease, the smell of that side is lost to an extent corresponding with the disorganization. An alteration of the roots of the nerves is attended by diminution of function, especially if the external root be the part affected. It has been found in experimental physiology that a removal of the anterior part of the cerebral hemispheres as far as the anterior commissure completely destroys the sense of smell in the animals on which the ablation was practised.

In the chapter on the nerves of vision, the author points out, as of unequivocal demonstration, their decussation in the inferior classes of the vertebral animals; the nerve of the right side passing perceptibly to the left, and that of the left side to the right. This arrangement is less manifest in birds, and can only be discovered by a very careful dissection of the nerve; and in the mammifera it is still more obscure. Cuvier exhibited it however very clearly in a preparation of the optic nerve of a horse. M. Serres was suc-

cessful in a similar demonstration in the embryos of the human subject, as also of the horse, sheep, ox, hare, and guinea pig. He saw clearly the internal fibres form an angle with the external at the point of union of the two nerves; and he followed the fibres of the right into those of the left nerve, and those of the left into the fibres of the right. The decussation of the optic nerves exists therefore, though in different degrees, in all classes of animals. For the entire confirmation of this fact, we are, however, more indebted to pathology than to experimental physiology and anatomy.

SOEMMERING dissected six subjects, who had each of them lost an eye, and he constantly found the optic bed of the opposite side wasted. The brothers WENTZELL have, in their own practice, met with cases confirmatory of this fact. Let us however remember, that the optic bed is often atrophied without any impediment to vision or diminution of the optic nerve—a fact readily explicable by our knowledge of the connection of this nerve, not with the optic thalami but with the corpora quadrigemina. The most authentic cases in pathology prove the decussation, as we find in the observations of VALSALVA, MORGAGNI, HALLER, POURFOUR PETIT, SAUCEROTTE, SABOURAUT.

If we injure deeply one of the hemispheres of the brain in a mammiferous animal, as has been done by POURFOUR PETIT, SAUCEROTTE and ROLANDO, the sight is weakened or destroyed on the opposite side.

If one of the anterior tubercula quadrigemina be wounded the same effect takes place; the opposite eye to the part wounded is the one alone which is struck with palsy.

If we wound the two hemispheres or the two tubercula successively, the sight is disturbed and lost in corresponding succession, by a constant disorder in the eye opposite to the injured hemisphere or tubercle.

A removal of one of the hemispheres in a bird, as practised by ROLANDO, causes constantly feeble vision in the eye opposite to the hemisphere removed. If the two hemispheres be removed successively, we observe a paralysis of vision in a decussated direction. A destruction of one of the optic lobes is followed by loss of sight in the eye of the opposite side. The effect is always in a decussated direction when these lobes are removed from frogs.

Hence, says the author, the most authentically recorded patholo-

gical facts, and without exception all the physiological experiments go to prove the decussation of the optic nerves.

In reptiles, turtles excepted, and in fishes, the hemispheres of the brain have no action on the optic nerves. In fine, in the inferior vertebral animals, not only the cerebral hemispheres and the optic bed, but even the tubercula quadrigemina and the optic lobes, may be removed without affecting vision—the insertion of the nerve seeming to be in the medulla oblongata.

Spurzheim, in his Anatomy, is disposed to restrict the influence of the quadrigeminal bodies over vision to the two anterior ones which have a direct connexion with the optic nerves. The two posterior ones have somewhat different communications with the encephalon, and though intimately connected with the anterior, cannot properly be considered parts of one and the same nervous mass.

The muscular nerves of the eye, viz. the third, fourth and sixth pairs, and the ophthalmic branch of the fifth are next described, and their connexions with the brain traced by M. Serres. The third pair is inserted in all the classes on the inner side of the peduncles of the cerebrum, behind the eminentiæ mammillares, or the bodies which supply their place in the mammifera, birds, reptiles and fishes. In man and the monkey, it corresponds to the level of the anterior portion of the anterior tubercula quadrigemina; in the ruminantia and rodentia it is at the point corresponding to the anterior third of the tubercles, owing to the volume acquired by these last. The more voluminous in fact the tubercula quadrigemina in this class, the nearer is the third pair to them, and the more removed from the posterior part of the optic bed.

In the mammifera there is a transversal band going from the quadrigeminal bodies and embracing the peduncle; and which seems, according to M. Serres, destined to form a communication between these bodies with the cerebral peduncles or crura.

Spurzheim, in the work already referred to, tells us that the filaments composing the third pair (the motor nerve of the eye) issue from the blackish body of the cerebral legs.

The sixth pair is inserted, to make use of M. Serres's own phraseology, into the base of the anterior pyramid at the point of its connexion with the pons in man and the monkey, though it is not unusual to trace it to the anterior cords of the medulla spinalis; and in some of the mammifera, as the kid, this is the constant ar-

rangement. In all birds this nerve has an insertion identical with that indicated above as prevailing in man. In conclusion, M. SERRES tells us, that the insertion of the sixth pair is not rigorously into the same part in all classes of animals, nor in all the families of the same class.

The fourth pair or *nervus trochlearis* is like the third, invariable in its point of insertion, and is constantly, says the author, implanted into the whitish lamina which forms the valve of VIEUSSENS behind the quadrigeminal bodies of the mammifera and the optic lobes or bigeminal bodies of birds, reptiles and fishes.

The author here inquires into the epoch at which the nerves arrive at or are inserted into the different points of the encephalon, with which they finally maintain permanent connection. We cannot follow him into the details on this subject: but content ourselves with the expression of the fact, that, in the human embryo, and in that of the horse, sheep and ox the eye is well formed at the end of the first month, but yet the optic nerve was at the bottom of the organ, and had not penetrated into the cranium. Towards the end of the second month it enters into the cranium, and is at first inserted by the roots, which are implanted into the quadrigeminal bodies.

From these premises we should say that if an animal comes into the world without eyes it has no optic nerve. Such, says M. SERRES, is the fact, as he has seen it in the young of rabbits and cats. Monsters, which have but one eye, or two confounded into one, have, as shown by GEOFFROY ST HILAIRE, only a single optic nerve, which in this case is more voluminous than in its normal state.

If, again, inverting the proposition, we ask what ought to happen when we see a monster with double quadrigeminal bodies or two pair of optic lobes? If the old hypothesis of cerebral origin of nerves were correct, there ought to be four optic nerves in these cases, but there are, in fact, commonly but two eyes and two optic nerves.

On the principles of eccentric growth of the nervous system, we of course expect that those animals which naturally are wanting in eyes will also fail to possess the optic nerves. Such, M. SERRES assures us, is the case with the mole, the Cape mole-rat and the chrysochlorus of the Cape, the shrew mouse, &c.; and yet in these animals the tubercula quadrigemina are perfectly developed. Were these bodies the root or origin, in place of the point of insertion of

the optic nerves, they ought to be deficient or atrophied. The nerves, repeats the author, go to, but are not derived from the encephalon, as has been hitherto taught.

This branch of the inquiry is carried out into details drawn from comparative anatomy, in the second volume of M. Serres, to which we shall now freely advert, without, however, as yet, losing sight of the first. At page 15, Tome II., he tells us, repeating what he had said in the second part of the first volume, that in the young larvæ of insects the nervous system advances in its growth from the circumference to the centre: that primarily there were two cords in the centre of the larva, which, by their subsequent union, constituted the single one seen in the later metamorphosis of the animal. This *fusion* of the two cords into one does not take place suddenly throughout its whole length: it always begins with the ganglions which are directly before and behind the œsophagus. These bodies exhibit at first a raphe which corresponds to the line of union, and which finally disappears. At the same time that the two ganglions are united into one, the intermediate cords, which connect them longitudinally from above downwards, follow the same course of approximation and adhesion, so as finally to be intimately blended and form really but one cord. From this law we must constantly except the two cords situated on the right and left of the œsophagus, which keeps them apart and gives rise to what anatomists call the œsophageal ring.

In the crustacea, as in the river crab, the half of the nervous cord is separated at its anterior portion: the ganglions, though in apposition, preserve evident marks of their first junction. The same is seen, perhaps still more evidently, in the nymphæ of the silk worm and bee, and in the bee itself.

The primary structure of the nervous system of the mollusca is the same with that of the insects and the crustacea.

The author in this part of his work enters into an examination of causes of the difference in length and size of the central nervous cords in insects, in their larva and perfect state. Sometimes the nervous centre is longer in the former than the latter. The cause of these varieties is found, he thinks, in the adventitious parts of the animal in its first stage of existence, which it loses in its last metamorphosis; and again, in the additional organs with which it is sometimes endowed in its more perfect state.

"The general character of the nervous system of the interverte-

bral animals is in its being symmetrical: more or less separate in the inferior ones, into two longitudinal bands, it is united in the superior ones as in the insects and crustacea.

"This junction of the parts on the right and left constantly takes place by the medium of the ganglions, either by their meeting each other, or being in apposition, or united or confounded together, or by sending reciprocally to each other filaments of communication.

"There is constantly established round the opening of the œsophagus a double communication. This is effected in two ways; either by filaments or the apposition of the pro and meta-œsophageal ganglions.

"The communications between the right and left sides of the nervous system are always direct, similar to the union of the two laminæ of the spinal marrow, or the principal commissures of the cerebral hemispheres. It hence results that all the organs receive their nerves from that part of the nervous system corresponding with the side on which they lie.

"The decussation of the two nervous systems remarked in the cerebro-spinal axis of the vertebral animals does not then exist in the invertebral ones.

"The few physiological experiments which have been made on the nervous system, prove that its action is direct throughout its whole extent, anterior as well as posterior to the œsophageal opening." —Pp. 41, 2.

These points determined, the author next investigates the oft debated subject of what part of the nervous system of the vertebral corresponds to that of the invertebral animals. Before we accompany him through the pages of the second volume in which he pursues this investigation, we must once more take a retrospective course and exhibit his views and observations on the other so called cerebral nerves.

The trigeminal or fifth pair is the one next in order to those which we have already treated of. It was in studying the origin and course of this nerve that M. Serres was led to discover the laws of neurogeny, that is, the eccentric growth and symmetry of the nervous system. The following are the results of his observations. 1. The fasciculi composing the nerve of the fifth are visible in the cranium a long time before their implantation in the medulla oblongata. 2. This implantation is accomplished by two orders of fasciculi, similar to that of the nerves along the spinal marrow, and which may be designated as anterior and lateral. The anterior are analogous to those of the spinal marrow, they are much stronger and more numerous than the others, their insertion

is into the trapezium of the medulla oblongata in man and the mammifera generally, and into the caudex of the medulla oblongata or the spinal bulb of CHAUSSIER in birds, fishes and reptiles. 3. The lateral bands are the fewest in number and least considerable; they reach the medulla oblongata at a later epoch than the preceding ones, and they are inserted into the lateral parts of the peduncle of the cerebellum. They correspond, in the opinion of the author, with the posterior fasciculi of the spinal nerves.

The nerve of the fifth pair has its origin, in conformity with the views of M. SERRES, in the muscles of the face, eyelids, mouth and the organs of all the senses, of which it must be regarded as an integral portion. The nerves being always in proportion to the volume of the organs whence they are derived, the extent of the face and of the organs of the senses taken in mass gives the volume of this nerve in the different classes of the vertebral animals. Hence the size of the trigeminal nerve follows pretty closely the progressive increase in the extent of the face from man to monkeys, the carnivoræ, the ruminantia and the rodentia. In the lama and camel, the fifth pair is of an enormous size, so also in the beaver; it is largely developed in the bat, and the mole and mole-rat of the Cape, and the chrysochlorus of the Cape, and the zemni.

In birds, on the contrary, there is a remarkable diminution of size of this nerve corresponding with the smallness of some and absence of others of the muscles of the face. In reptiles it is still smaller, as in the cameleon, crocodile, viper, lizard, frog, &c. It assumes a considerable size in the bony fishes, as in the cod and pike; and in the cartilaginous ones it exceeds all the proportions met with in the vertebral animals.

With this prodigious development of the trigeminal nerve coincides in the squali the appearance of a particular organ, which JACOBSON regards as that of a new sense, and in which ramify numerous fasciculi of the fifth pair.

In the mammifera, birds and reptiles, the development of this nerve is proportionate to the size of the internal maxillary artery and its numerous divisions. The beaver has this artery of an enormous size.

The fifth is the special seat of the sense of taste. This, in common with the sense of smell, is connected with the instinct of the preservation of the species: they are both sentinels of nutrition, and hence their relations.

The olfactory chamber and that of taste are so intimately connected together by the bony pieces and soft parts which compose them, that one cannot grow or be diminished without the others participating in this modification. One of the branches of the fifth pair is distributed to the sense of smell, and becomes in a measure the auxiliary of this latter. In fine, we may say that the olfactory and trigeminal nerves are developed in all the classes in a direct ratio to one another, always excepting the cetacea among the mammifera.

The extent of the two senses augmenting with the development of the face, of which they constitute in some measure the frame work, and the cavity of the cranium diminishing at the same time, leads to the inference that the entire volume of the encephalon is in the inverse ratio of the size of the trigeminal and olfactory nerves.

The question started here by M. Serres, whether vision can be enjoyed without the animal's possessing an optic nerve, was examined in our review of the first volume of this work. The author returns to the investigation in the second volume. He contends that the mole, the mole rat of the Cape, the fœtid shrew, the chrysochlorus of the Cape, the zocor and the zemni have no optic nerve properly so called; and that what Gall, Durondeau, Carus, Treviranus, and Bailly had regarded as the rudiment of one is not so in fact. We cannot, from the globe of the eye of a mole, trace a nerve which like the optic is directed to the apophyses of Ingrassias—nor one which goes from this part to the tubercula quadrigemina, nor which decussates the corresponding one on the opposite side. The filaments in question stop short of the eye, and are at the base of the encephalon adherent to the gray matter of the *tuber cinereum*, without in general having any connexion with the small inferior commissure of the brain. In fine, M. Serres denies that these filaments are nervous; their gray colour, perfect transparency, and marked elasticity induce him to consider them as really belonging to the vascular system. It is true that he only succeeded once or twice out of thirty injections in reddening these internal filaments. But again he tells us, that if they are vascular they ought not to be visible in a class in which the vascular net work, which borders the *tuber cinereum* in the mammifera and birds, is wanting—and this is actually what takes place in the reptiles. We do not see in these last the small filaments behind the optic nerve,

nor do we see in the *proteus anguinus*, which like the mole is destitute of this nerve, any of these grayish filaments which have deceived anatomists.

In all the above mentioned animals, the optic nerve is replaced by a branch of the trigeminal nerve. Some of them, as the zemni, are entirely blind; others, as the mole, the mole rat, and the proteus, have a limited power of vision.

That a branch of the fifth pair should confer the faculty of sight, need not excite surprise, when we know that another branch of this same nerve is the one on which the sense of hearing depends in most fishes. Hence the general law laid down by CUVIER, and cited in our former article, (vol. i. p. 144) viz. "that the difference in the functions of the nerves depends rather on the different organization of the parts to which they are distributed, than on their own nature." For, 'are distributed' M. SERRES would say, in which they are formed.

From page sixty-four to page eighty-nine of the second volume, we have some very interesting particulars connected with the functions and diseases depending on lesion of the fifth pair. MAGENDIE, who has led the way in the experiments performed by dividing this nerve in living animals, states that in twenty-four hours after the section, the cornea begins to become opake; in seventy-two hours it is still more so, and the opacity goes on gradually augmenting, so that in five or six days it is of the whiteness of alabaster. Towards the second day the conjunctiva is injected; the iris becomes red and inflamed: false membranes are formed on this latter, and which, by gradually filling up the anterior chamber of the eye, contribute to the opake appearance of the cornea. About the eighth day the tissue of the cornea is visibly altered, its centre ulcerated, and its circumference detached from the sclerotica, the eye is wasted and reduced to a small tubercle. The sight becomes very weak, and almost lost if the nerves on both sides be cut; the animal then moves as if it were blind.

The tongue is insensible on the side in which the section has been made; and on both sides if the two nerves have been cut. In this last case the lower jaw hangs down, and deglutition is very difficult. When a single nerve is cut, half of the tongue becomes whitish, the gums abandon the teeth, which are laid bare.

The pituitary membrane loses its sensibility; it is unaffected by any odorous body, whether this latter be at any distance, or in actual

contact, it is not even excited by corrosive substances, as happens after the section of the olfactory nerve. This difference is explicable by the aid of comparative anatomy, by which we learn that the ramifications of the olfactory nerve seldom extend beyond the ethmoidal cornets, while the extent of the olfactory chamber is chiefly due in animals to the volume of the lower cornets or spongy bones on the surface, on which alone are distributed the filaments of the fifth pair.

MAGENDIE thinks that in addition to the above effects, he has seen a section of the fifth pair followed by loss of hearing, a circumstance explained by the nerve of hearing in certain animals being a division of the trigeminal.

The author next proceeds to give some pathological cases marked by loss of function of the fifth nerve on one side. Among these was one in which there was loss of vision, smell, hearing, and taste of the right side. The subject was a man twenty-six years of age, who for a year or two prior to his entering the hospital of La Pitié, had epileptic fits. These returned frequently after he came under M. SERRES's notice; they always began by a convulsion of the right side. On dissection after death, in addition to some thickening and alteration of the pia mater, the ganglion of the trigeminal nerve of the right side was found enlarged, of a yellowish white, and its granulations separated by a small quantity of serum. This change and hypertrophy of the ganglion extended to the three principal divisions of the nerve; the ophthalmic seemed to be the longest affected; the inferior maxillary was rather more altered than the superior. The lachrymal, frontal, and nasal nerves presented their usual appearance. More minute details of the organic changes in the other ramifications of the trigeminal are given, which we forbear transcribing here.

The right optic nerve was a little less voluminous behind the eye than the left. Throughout the remainder of their course these two nerves were identical in appearance.

The cornea of the right eye was opake, and thickened throughout; the iris adherent by its posterior surface; the pupil contracted; and the anterior surface of the iris covered by a false membrane, which adhered to the posterior face of the cornea. The choroid was rather redder, and the vitreous humour seemed less transparent than in the left eye.

Alterations were visible in the pituitary membrane, the gums and the mucous covering of the tongue on the right side. The right ear presented nothing abnormal, either in its internal osseous apparatus or its nerves.

On examining the brain, the attention of M. Serres was arrested by the appearance of the right tuber annulare at the spot corresponding to the insertion of the trigeminal nerve of this side. In place of the usual junction there was found, on raising the brain, a gelatinous yellow matter analogous to that found at the extremity of the nerve, and which last remained free on a level with the superior border of the *os petrosum*. By separating the transverse fasciculi of the pons, traces of this yellow matter were seen to the depth of two lines; at the same time there was distinguishable on the internal side of the gelatinous matter two small white fasciculi in their entire state, and which were laid bare as far as the superior border of the spinal bulb. These fasciculi were continuations of those medullary ones seen on the inner side of the sphenoidal ganglion of the fifth pair. These latter were sound, so that the muscular filaments were natural throughout their whole extent. On the left side the trigeminal nerve was in its natural condition.

In addition to the above changes of the encephalon, the left hemisphere was softened and slightly yellow at its superior surface, especially before and behind. So adherent was its internal surface to the dura mater, that a small part of the cortical substance remained attached to this membrane at the time that the brain was raised to examine its base. It was then discovered that the whole of the middle and posterior lobe was soft and yellow; a change which was traced as deeply as the level of the centrum ovale. The optic bed and the corpus striatum of the same side were rather softer than on the opposite one. The left hemisphere of the cerebellum exhibited an alteration analogous to the corresponding hemisphere of the cerebrum. The left lateral ventricle was more enlarged than the right; the pineal gland was more voluminous and harder than in its normal state.

The two lungs were tuberculous at their summit.

The reader will remember that the epileptic convulsions of this subject always began on the *right* side.

It is not often that we see pathology thus repeating, as it were, step by step, the march pointed out by physiology; yet such

is precisely the course of things in this case as compared with the experiments above narrated.

The application of this knowledge of the nature and location of a disease, as thus pointed out by experimental physiology and morbid anatomy, was soon made by M. SERRES in the treatment and cure of a man and a woman, in both of whom symptoms analogous to those above enumerated were displayed.

The author is inclined to enlarge the domain of the fifth pair, and to place instinctive acts under its dependence. The example of this is furnished in the invertebral animals, which are, he thinks, completely acephalous. In the mammifera also he tells us, that in proportion as the encephalon decreases in size the fifth pair is developed, and with it the instinctive acts of the animal. He would put on the same line in regard to their instinct and its cause, the beaver, the mole, and the bee; that is, in all of these he considers the fifth pair as the source and stimulus of instinct. On the other hand, man remarkable for the development of his encephalon, and the variety and energy of its functions, is the lowest in the scale of instinct, because least favoured in the volume of this nerve. The following inferences terminate the chapter on what M. SERRES calls the concordance of the nervous system in the animal kingdom.

1. In all the vertebral animals, and in man, the fifth pair exerts a marked influence over the action of the senses.

2. The mole is deprived of the optic nerve like the chrysochlorus of the Cape, the male rat, proteus, &c.; and yet this deficiency does not prevent the exercise of vision.

3. The fifth pair seems to be the seat of instinct, or of the acts without reflection in animals.

4. In all the vertebral animals, the energy of instinct seems to be in relation with that of the fifth pair.

5. The cephalic ganglions of the articulated animals being analogous to those of the fifth pair, the instinctive properties are more energetic in this class of beings.

6. The new views which may be revealed to us in the physiological experiments on the nervous system of the invertebral animals, ought to be compared with those on the fifth pair, and the intervertebral ganglions of the vertebral ones.

We must again recur to the first volume of M. SERRES's work,

in order to extract his leading thoughts on the auditory and facial nerves, and the pneumo-gastric, sympathetic, and glosso-pharyngeal ones.

The auditory nerve (*portio mollis*) is formed, in embryos, of separate filaments. In the second month of the human embryo, four, five, six, and even eight filaments could be counted, which towards the fourth month become blended into one; and it is only after this period that the characteristic softness of the nerve is distinguishable.

In birds and reptiles the same filamentary arrangement is seen in the first period of embryo existence. In all, the acoustic or auditory nerve is at this early period found separated from the encephalon, and gradually continuing its eccentric growth, becomes united to the lateral parts of the medulla oblongata.

The necessary connection between the white striæ of the fourth ventricle and the auditory nerve, as laid down by PICHOLOMINI, is not admitted by the author of the work before us, any more than the proportion between this nerve and the grayish enlargement, or ganglion of the tænia, as pointed out by the WENTZELLS and admitted by GALL and SPURZHEIM. In the adult human subject the auditory is implanted on the restiform body of the medulla oblongata. In birds this junction is thrown more backwards.

The facial nerve (*portio dura*) has the same filamentous structure at an early period, which we noticed in the portio mollis; and it is inserted in the same part of the medulla oblongata with this latter, except in being a little more superior and anterior.

Between the auditory and facial nerves we sometimes meet in man, and often in the mammifera, a small isolated fasciculus, which M. SERRES thinks is an accessory nerve to the facial.

We do not meet with the same evident proportion between the development of the face and the facial nerve, which has been stated above to prevail between the former and the trigeminal nerve.

The author, when speaking of the functions of the facial nerve, pays a merited compliment to MM. BELL and MAGENDIE. Its pathological changes generally take place during its passage through the aqueduct of FALLOPIUS: and, continues M. SERRES, in four subjects which I examined after death, in whom the symptoms consequent on derangement of this nerve were the same with those pointed out by BELL and SHAW, there had also existed a deafness more or less complete in the ear corresponding to the affected

nerve. Hence he thinks that the portio dura of the seventh pair has an influence on hearing.

It is in fishes that the correctness of the term facial respiratory nerve, as applied to the portio dura, is clearly demonstrated. Their opercula are the mechanical agents of respiration, and the muscles by which they are moved receive their nerves from the portio dura.

The same laws of neurogeny govern the growth of the pneumo-gastric with that of all the other so called cerebral nerves. In acephalous fœtuses the ramifications of the eighth pair are distinctly traced through the lungs and to the heart and stomach, and if the larynx be entire, the recurrens is so likewise. In bicephalous monsters with double larynx, œsophagus and lungs, the pneumo-gastric nerves are double on each side; but there being at the same time only one heart and one diaphragm, the cardiac and phrenic nerves are single on each side—a fact inexplicable on the current hypothesis of the encephalic origin of these nerves, but readily explained by admitting their origin in the viscera, which they are said to supply. Some interesting observations on monsters are contained in this chapter, but we cannot notice them at the present time.

The accessory nerve of WILLIS and the hypoglossal or ninth are likewise described, and their origin and eccentric growth traced by the author with his accustomed industry.

The principles laid down by M. SERRES facilitate greatly a correct understanding of the true anatomical character of the great sympathetic and of its functions. It is well developed in the anencephali, and of course without the aid of the brain; and is as distinctly seen where the spinal marrow is wanting. It follows constantly the organic changes of the parts to which it is distributed. "It derives, therefore, its origin from the organs; it, like all the other nerves, is put in relation or connection with the spinal marrow and encephalon, though these nervous masses are foreign to its formation." The only strict observable dependence under which the sympathetic is placed, is on the sanguineous system:—aberrations or excesses in the latter being always accompanied by corresponding changes in the former.

The remaining space allowed to us, and this time we are sadly curtailed of our fair portion, will be occupied by a rapid sketch of the second volume, of which hitherto we have only analysed the two first chapters. In the third one, on the "*comparative anatomy of the spinal marrow in the four classes of vertebral animals*," the

author deals too largely in notes of exclamation and periphrase, and we find him repeating the very language used in the first volume; nor is his affected sententiousness more pleasing than his occasional verboseness: both are bad links to his really valuable anatomical experiments and observations.

The hypothesis of the central development of the spinal marrow is, he tells us, irreconcileable with the existence of a central canal throughout its entire axis: a void like this cannot be the primitive source of the nervous system. The capacity of this canal is in the inverse ratio of the thickness of the gray layer which fills up the centre. In the human subject, in its perfect state, the canal is entirely obliterated. In the carnivora it is very evident, and in the pachydermata and ruminantia it is still larger, and the gray matter proportionably thinner.

The spinal marrow is then formed, in all the vertebral animals, of two cylinders, incased in some measure in each other; the external one is formed of white, the internal of gray, brown, or reddish matter, according to the animal or its age, in which the observation is made. These two cylinders are not developed in the direct ratio of each other, as believed by some anatomists.

Each segment of the spinal marrow is developed in the direct ratio of the volume of the vertebræ by which it is surrounded: these latter are proportionate to the ribs which they support; the ribs to the muscles inserted in them; the muscles to the arteries and nerves.

There is a marked contrast between the inferior region of the spine of birds and mammifera. In the former it is fixed, and composed of precisely the same number of pieces: the spinal marrow terminates in a uniform manner. In the latter the variations of both these parts are as numerous as are the diversities of tails. The very reverse is seen in the cervical region of these two classes. In the mammifera it is with one or two exceptions uniform. In birds the varieties of it are great.

An explanation of the formation of the cauda equina is given by the author, but its length prevents our introducing it here. He attributes this appearance to what he calls the rise of the spinal marrow in its case.

The enlargements in different parts of the spinal marrow of animals always correspond with, and are proportionate to the limbs or wings or fins, as the case may be.

Some interesting particulars are given on this occasion respecting the metamorphosis of the tadpole.—Pp. 134. 6.

The nerves of the trunk and the olfactory optic and trigeminal nerves are developed in the four classes in the direct ratio of the size of the spinal marrow, excepting the olfactory nerve for the cetacea, and the optic for the mole, &c.

In respect to priority of formation of the different parts of the central nervous processes, the spinal marrow is first formed.

The spinal arteries have a distinct and separate existence from the encephalic ones, and of course the spinal marrow can be, and is formed independently of the brain.

Chapter fourth is on "*the comparative anatomy of the medulla oblongata in the four classes of vertebral animals.*" The author begins by asking what are the boundaries of the medulla oblongata? All anatomists are now agreed in regarding it as the central point of the encephalon either for the termination or beginning of its various radiations. Since the time of LORRY, physiologists uniting in this sentiment have spoken of it as one of the most energetic centres of action of the encephalon. The medulla oblongata, like the spinalis, is in the embryo state at first smooth; after a time the eight bands are formed in relief, to which the anatomical terms have been given of *anterior pyramidal bodies*, *olivary cords or bodies*, *posterior pyramidal bodies*, *and restiform bodies*. There is great inequality in the development of these bodies in the different classes of animals, and even in the different families of the same class. Their comparative anatomy is given in detail by the author, from page 191 to 218.

In man the decussation of the pyramidal bodies is evident; in monkeys and the cetacea less so; in the carnivorous animals, the pachydermata and the ruminantia, it is in regular series less obvious. The pyramids are strictly parallel in fishes and reptiles.

Physiology confirms this view. In fishes and reptiles the action of the brain on the medulla oblongata and spinalis is direct; in birds and the mammifera it is crosswise; that is to say, that a lesion of one side of the brain of the former is followed by impeded function and disorder of the same side of the body, whilst in the latter the lesion of the brain affects the opposite side of the body.

This remark applies to the anterior pyramids which alone decussate; the posterior ones are always direct in the mammifera, birds, reptiles and fishes.

There is not, M. Serres thinks; any direct proportion between the medulla oblongata and the cerebral and cerebellar hemispheres, whatever may prevail in regard to particular portions. The anterior and posterior pyramidal and the restiform bodies are, he tells us, in a direct development with the olfactory, optic, and trigeminal nerves; whilst the olivary bodies are in an inverse ratio to these same nerves. The anterior pyramids are generally in direct proportion to the medulla spinalis.

We are next presented with "*physiological and pathological corollaries on the spinal marrow and medulla oblongata.*" Of these the following are worthy of repetition.

Sensibility or the power by which sensations are transmitted to the mind, and irritability or the power of causing movement, are two properties inherent in the nervous system. One may be lost and the other retained. The posterior branches of the spinal nerves are more sensible than irritable; and the anterior ones more irritable than sensible. The cords of the spinal marrow adjoining these roots participate in the qualities of these latter respectively. The physiological experiments made by Magendie to prove this latter point are confirmed by some pathological facts adduced by M. Serres. One case however is recorded by him adverse to this belief. It was of a paraplegic woman, in whom sensation in the thighs and legs was preserved. It was found after death that the posterior cords of the spinal marrow were the only ones altered in three different places from below the middle of the dorsal region. This fact lends probability to the opinion of Rolando, that the posterior spinal cords are the motive, whilst the anterior are the sensitive ones.

The nervous system and of course the spinal marrow is foreign to the circulation before birth; and in fœtuses where the former have been wanting the latter still went on. If the egg of a hen, duck or turkey be opened at the third day of incubation, when we can see the movements of the heart, and we destroy the brain and spinal marrow, the heart still continues to beat as before incubation goes on, and the fœtus acquires its usual developments.

Respiration is more directly influenced by nervous agency. Every change of the dorsal region of the spinal marrow in the human subject influences the respiration, and this the more promptly the higher we ascend from the middle of this region.

Pathology first, and subsequently [illegible] physiology, induce the author to believe in the actio[illegible] row on the in-

testines, bladder and genital organs. If the disorganization of this cord be at the lower enlargement, the larger intestines are more particularly affected, as by paralysis and diminished calibre. At the lower third of the dorsal region the end of the small intestine feels the effects of the pathological alteration; at the middle the ileon is interested, and at the upper third one half of the jejunum is the sufferer.

If we expose the spinal cord of an animal and inject an irritating liquid between the dura mater and the nervous substance, we see accelerated movements of the whole intestinal canal, when, the abdomen being opened and the mesentery cut, the intestines are spread on a horizontal plane.

The cervical region acts on the stomach and small intestines; but the stomach is chiefly affected by experiments on the medulla oblongata and cerebellum.

The anterior pyramidal bodies only act on the voluntary movements.

The olivary bodies influence in a special manner the movements of the heart. The contractions of this viscus have been irregular and jerking in chronic alterations confined to these bodies alone.

Sudden effusions of the restiform bodies paralyze the lungs; and it is probably because the restiform body is often altered at the same time with the cerebellum that the origin of the respiratory power has been placed in this latter.

The band intermediate to the restiform and olivary body, has a more immediate influence over the stomach. When after removing the cerebellum we irritate the medulla oblongata, and reach this part, we produce very remarkable movements of the stomach: it is contracted, and the pylorus is brought nearer to the cardia, but in the next moment it resumes its pristine capacity. This effect is produced, but in a more limited degree, by irritation of the olivary and the internal portion of the restiform body.

From experiments of this nature M. Serres infers, that the anterior cords of the spinal marrow are the seat of antiperistaltic movements.

Stammering follows an affection of the anterior portion of the medulla oblongata below the olivary bodies. M. Serres says, that he has never seen stammering in paralytic women; when present it was always in men. When this infirmity prevails in families, it always attacks the males. The author has notes on more than five

hundred families in which stammering has prevailed, and yet not a single example of a female being affected by it.

Among the inferences drawn from the history of an organic disease of the spinal marrow in the work before us, are the coincidence of irregular movements of the heart with primitive lesions of the anterior cords of the spinal marrow; and the more especial influence of the posterior cords on the lungs and respiration.

We must not omit the copious notices of the mode of formation and growth, and of the comparative anatomy of the *tubercula quadrigemina* contained in the fifth chapter of M. SERRES's second volume. He concludes by telling us, that the optic lobes of birds, reptiles, and fishes, are analogous to the tubercula quadrigemina in the mammifera. They are hollow in the former, and solid in the last.

The tubercula quadrigemina are of less importance than the other parts of the brain in the mammifera; whereas in reptiles they are paramount to the cerebellum; in birds they form a pair of lobes still more important even than in reptiles; whilst in fishes, especially the bony ones, they constitute the principal part of the encephalon, and predominate over all the others.

The sixth chapter is on the cerebellum. In the human embryo the two cerebellar laminæ are not visible until the beginning of the third month; they are then separate, and are directed towards each other on the floor of the fourth ventricle. At the expiration of the third month the union is complete, and the cerebellum constitutes a single organ.

In the mammifera the pons VAROLII is developed in a direct ratio with the lobes of the cerebellum, the corpus ciliare and the olivary bodies. It is on the contrary in size in an inverse proportion to the spinal marrow, the inferior and superior peduncles of the cerebellum, trapezium, valve of VIEUSSENS, the tubercula quadrigemina and the median lobe of the cerebellum.

The same reasons which have prevented our analysing in detail the preceding chapters, forbid our dwelling long on that in which the author treats of the comparative anatomy of *the cerebral hemispheres and the olfactory lobe*. He has a most unfortunate love of circumlocution when he introduces novelty of nomenclature or opinion, so as to render it no easy matter for us to state precisely what he means. Sometimes in the midst of a paragraph, which was begun to explain the situation and growth of one part of the ence-

phalon, we find another brought in and made a subject of incidental allusion or comparison before he had explained its character or position. He tells us a great deal about the olfactory lobe, how much it has been overlooked, what relation it bears to other parts of the cerebrum; but he omits to state clearly and succinctly what it is. The very section of the chapter, which is headed *olfactory lobe*, begins by the author telling us that he has already shown its importance and influence. He has moreover a marvellous fondness for interrogating, which, with him, is not so much a way of expressing doubt, or asking for information, as a fashion of intimating that these questions are his opinions. In fine, to tell the whole cause of our complaints against M. SERRES, as a writer, he is excessively affected, we might say infected, with the two fold desire of reasoning *à la Socrate*, by asking questions, and of fine writing; when, in place of all this, he ought to be simply narrating what he has seen and studied of the anatomy of the nervous system.

The olfactory lobe may be regarded as the upper and anterior terminal portion, somewhat swelled into bulbs, of the cerebro-spinal axis. It is, in some fishes, far in advance of the cerebral hemispheres; in others it is in apposition with these latter, which it almost equals in volume. In reptiles its position is various, sometimes being removed from the cerebral lobe and joined to it by a pedicle; at other times it is directly contiguous. In birds the olfactory lobe is situated at the base, and before the anterior cerebral lobe, and is pediculated. In the mammifera it exhibits the same varieties, being largest when it is directly contiguous to the cerebral lobe. In man it is at its minimum size.

Much is said by the author of the optic and sphenoidal lobules, and the lobule of the hippocampus. The first, or optic, he describes as a particular element of the encephalon, situated behind the *kiasma* of optic nerves, to which it is closely united: it has a flattened and triangular shape in man; its base is applied to the mammillary eminences; its summit is incased behind the optic nerves. It is much larger in monkeys than in the human species. The optic nerve has a very close connexion with the optic lobule, several medullary filaments going from the substance of the latter to the kiasma of the nerves of vision. The sphenoidal lobule is the inferior prominence of the middle lobe in the sphenoidal fossa of the base of the cranium; and the lobule of hippocampus is that circumscribed outwardly by the external root of the olfactory pedicle.

The chapter concludes with a statement of the proportions of the different parts of the cerebrum to each other. Of the lobules of which the cerebral lobes are composed in the mammiferous animals, the most important are the sphenoidal, and that of the hippocampus. The sphenoidal lobule is developed in a direct ratio to the corpus callosum, and inverse to the fornix and its dependencies. The lobule of hippocampus, and the olfactory lobule, are proportionate to each other, and both are developed inversely to the tuber annulare and the hemispheres of the cerebellum, and in direct proportion to the median lobule of this latter, the trapezium, the tubercula quadrigemina, the nerves of the senses, and the spinal marrow.

The eighth chapter is entitled "*physiological and pathological corollaries on the cerebellum, the tubercula quadrigemina, and the cerebral hemispheres.*" After stating the various opinions held by physiologists respecting the function of the cerebellum, the author gives his belief of its influence over the generative faculties. The reasons for this are found in a great number of pathological facts which he adduces. They are cases of organic alterations of the cerebellum, and especially of its median lobe in persons who had been subject, if males, to frequent and violent erections, and if females, to nymphomania or other excitement of the genital organs.

Experiments on animals are also adduced, in which a sharp instrument run into the cerebellum caused erection. Still more, if the irritation be directed to the lower or lumbar portion of the spinal marrow, there will be, as in the instance of Guinea pigs, ejaculation. The integrity of this part of the spinal marrow seems to be as necessary to the contractility of the vesiculæ seminales as it is to that of the uterus, since in paraplegic women, when pregnant, there is no expulsive force for the completion of labour—the organ is inert and the os tincæ undilated. If a section of the spinal marrow at the lumbar region be practised on pregnant rabbits, Guinea pigs or bitches, some time before the period of gestation is complete, labour will not take place. If the section be made during the labour it is immediately arrested. Irritation of the spinal marrow at this same part produces abortion.

The influence of the cerebellum over voluntary movements would seem to be fully made out by M. Serres; first, by pathological facts which have come under his own notice, and secondly, by physiological experiments on different animals. In the first he found

that when a lobe of the cerebellum was altered by softening, or abscess, or bloody infiltration, there had been during the life-time of the individual, hemiplegia, partial or complete, of the opposite side.

In the cerebellum resides also the faculty which combines the movements necessary for leaping. It is more especially on the lower or posterior limbs that the cerebellar influence is most marked.

It would seem from the history of subjects of general paralysis and their post mortem examinations, that general immobility is the consequence of the destruction by disorganizing inflammation of the annular protuberance or pons VAROLII. In all of them the most acute pains had preceded the loss of sensibility which accompanied that of mobility. In all, the pupil was contracted or fixed, according to the state of repose or agitation of the muscles.

In acute encephalitis (ataxic fevers) the inflammation of the annular protuberance produces rigidity of all the limbs and permanent contraction of the pupils.

The phenomena, consisting in loss of sensibility, as of sight, smell, hearing and taste, are referrible to the destruction of that part of the annular protuberance in which the fifth or trigeminal nerve is inserted.

In two of the cases recorded by the author there was a remarkable impulse to run forward at the beginning of the attack, which terminated in complete paralysis. In these persons the pons was destroyed throughout its entire depth.

Experiments on animals afford nearly similar results to the foregoing. An interesting one consists in removing from a mammiferous animal the cerebral lobes, the tubercula quadrigemina, and the cerebellum, and to leave intact only that portion of the pons which is above the insertion of the fifth pair. In this condition, the animal, with only the basilar segment of the encephalon remaining, still possesses a regular series of vital actions: the respiration and circulation are freely performed, though rather more hurried than natural. Sensibility is preserved; the animal feels when it is pricked, and has the consciousness of this sensation and the will to avoid it; since it moves its paws, trunk and tail with regularity, without, however, being able to walk; it opens its mouth to cry without producing the sound; it hears, feels, and even seems to taste the substances presented to it, but its sight is lost.

Passing over many very interesting details of pathology and experimental physiology, which serve so happily to elucidate the true

nature of the functions of the tubercula quadrigemina and the cerebral hemispheres, we must close this article by giving to our readers the following inferences of the author. He designates by the term exciter, the part or point in which the dominance of action seems to reside.

"1. The inferior enlargement or bulging, that is, the lumbar region of the spinal marrow, is the exciter of ejaculation and contraction of the uterus, bladder and large intestine.

"2. The dorso-costal portion is the exciter of the small intestines and the movements of the ribs.

"3. The cervical region is the exciter of the mechanical agents of respiration, and particularly of the diaphragm.

"4. Moreover, the anterior cords of the spinal marrow seem to be the *chief exciters of movements*, and the posterior cords the *principal exciters of sensibility*.

"5. The basilar segment is a centre of excitation. The olivary body is *the exciter of the movements of the heart;* the restiform body *the exciter of pulmonary respiration*. The cord which separates these two bands is *the exciter of the stomach*. The excitations of preservation and nutrition are thus concentrated in the inferior limits of the segment. (*Organ of nutrition of* WILLIS.)

"6. The superior part of the segment is *the exciter of general sensibility and mobility*. (LORRY.) The trapezium is *the exciter of the movements of the face*. The bands in which the trigeminal nerves are inserted are *the exciters of the apparatus of the senses and of instinct*.

"7. The quadrigeminal bodies, regarded by WILLIS as the *organs of preservation*, are *the exciters of the association of voluntary movements* or of *equilibration*, and also the *exciters* of *the sense of sight* in the three inferior classes of animals.

"8. The median lobe of the cerebellum is *the exciter of the organs of generation*. Its hemispheres are *the exciters of the movements of the limbs*, and more especially of the pelvic members. The cerebellum is *the exciter to jumping*.

"9. The optic bed is the exciter of sight in man and the mammifera. Its radiations are *exciters of the movements* of the *thoracic* or *upper extremities*, and subsidiarly *exciters of respiration*.

"10. The radiations of the striated body are *exciters of the pelvic members*.

"11. The olfactory field is *the exciter of the sense of smell*.

"12. The demi-centrum ovale is *the exciter of voice and speech;* and moreover the cerebral lobes are *the exciters of the intellectual faculties*. These excitations are the different instruments by which the mind displays its manifestations."

No stronger evidence need h[illegible] patience with which

M. Serres has prosecuted his inquiries than the numerous tables scattered through the two volumes of his work, which exhibit the comparative size of the cerebral nerves, and of the several portions of the cerebellum and cerebrum in the different classes of animals and the individuals of each class. In enlisting pathology to aid and support experimental physiology, he has taken the only true method of advancing both to their true station as adjuvants to practical medicine.

Medical Literature.

ARTICLE XIV.—RETROSPECTIVE REVIEW.—*Œuvres de Médécine Pratique* D'ALEXIS PUJOL, *&c.* *Paris*, 1823, 4 *vols.* 8*vo.*

As usual, we commence by saying, that we do not intend to analyse the whole four volumes of M. PUJOL's works in this short article. These volumes contain his memoirs on chronic inflammations of the viscera; the treatise on lymphatic diseases; the art of exciting or lessening fever; cutaneous diseases; hereditary diseases; scrofula; mineral magnetism; epidemics; miliary fever; hydrophobia; rickets; puerperal fever; hepatic colic, &c.

Our intention is to confine ourselves to some quotations from, and remarks upon, his first chapter; in which his views of the nature of irritation and inflammation are detailed.

In Chapter I. of the treatise of chronic inflammations of the viscera, M. P. says,

"I have no wish to discuss the merits of the more or less ingenious opinions by which different physicians, both before, and since the discovery of the circulation, have endeavoured to explain the phenomena of inflammation; and upon which they have founded the nature of the curative indications offered by this class of diseases. I shall content myself with communicating, as briefly as possible, my own ideas in relation to this diseased principle."

Those who are familiar with the history of medicine, will perceive the real importance of correct views of the nature of inflammation, since upon some inflammatory or irritative modification of action in the sanguiferous vessels, are founded many of our most important practical indications, in a vastly comprehensive circle of diseases: we hope therefore to be found in the line of our duty as editors of this journal, while exhibiting to our readers the sentiments of one of the most considerable of those authors who have written on this very debatable subject. Before we proceed, however, we

propose to extract from a work, of the highest authority and excellence, the following account of the discussions heretofore had on the subject.

"After the vital power of the vessels had been established by STAHL and his disciples, the phenomena of local inflammation were referred to this action, and as all the natural operations of the arterial system seemed to be augmented during this state, so it followed, almost as an obvious consequence, that inflammation essentially consists in increased action of the capillaries. A strong objection to this supposition was, however, quickly perceived, that the effect of the vital action of the vessels is contraction, while, as we observed above, the very essence of inflammation consists in an increase of the capacity of the vessels. But the ingenuity of the physiologists was not baffled by this difficulty; various means were invented to accommodate the theory to the facts, depending upon the presence of some obstacle which the blood was conceived to meet with in its passage through the vessels, which, at the same time, was not incompatible with their increased diameter. BOERHAAVE attributed the obstruction to a change in the texture of the blood itself, by which it became more thick and viscid, acquiring, what he called, a state of lentor, and to this lentor he added the further hypothesis, that the increased action of the arteries forces the larger particles of the blood into vessels, which, in their natural condition, are too small to receive them. This constitutes the *error loci* of the mathematical physiologists, and by the lentor and *error loci* were the phenomena of local inflammation explained by BOERHAAVE and his numerous disciples, until this, like most of their other speculations, was assailed by the powerful genius of CULLEN. In place of the mechanical doctrine of BOERHAAVE, CULLEN substituted his favourite hypothesis of spasm; for he admitted the increased action of the vessels in local inflammation, while he was aware, that without some counteracting circumstance, this increased action would produce effects totally inconsistent with the actual phenomena. We shall, however, find, upon due reflection, that the spasm of CULLEN is equally unfounded, and perhaps even less intelligible than the lentor and *error loci* of the BOERHAAVIANS; and accordingly his explanation has been generally regarded as incomplete; yet since his time no regular attempt has been made to reconcile the increased action of the vessels with their enlarged diameters."

"In this dilemma a totally different view of the question has been taken, according to which, local inflammation is to be attributed to a diminished action of the capillaries. This *hypothesis*, which appears to have been originally proposed by VACCA, an Italian physiologist, about the middle of the last century, was first brought forward in a clear and consistent form by Mr ALLEN,

who, for some years, lectured in Edinburgh upon the animal economy; it was adopted by Dr WILSON PHILIP, who performed a series of experiments in support of it, and has since been embraced by Dr PARR, Dr THOMPSON, and Dr HASTINGS."*

We may add that this doctrine is now taught by Dr CHAPMAN, professor of the practice of medicine in the University of Pennsylvania. Dr BOSTOCK, author of the above extract, is disposed to favour the theory of increased action.

If, in any case, we have ascertained a law, by the operation of which a full and ample explanation of certain natural processes can be made out, that is a bad sort of philosophy which seeks for another and directly contrary law to explain the same processes. We want no other principle than that of the attraction of matter to explain the laws of motion of the heavenly bodies, the ten thousand conflicting attractions of which are so harmoniously distributed and arranged, that each star and each system retains its relative situation and influence in the whole vast and complex arrangement. We want no repulsive energy to keep the planets from falling into each other, and disturbing the great relations of the whole system. Now, if it be consonant to the voice of reason and common sense that one vital principle of a contractile nature, (a principle which, as GLISSON, HALLER, and M. BROUSSAIS assert, tends to condense and approximate all the particles of a living being,) is adequate to explain all the visible or appreciable motions that occur in its vital economy, it is a work of supererrogation to look for a principle of an expansile nature to aid us in making the very same explanations.

The animal economy consists of many kinds of tissues, of which the several organs are composed; and these, by chemical analysis, have been resolved into three principal ones, to wit, albumen, gelatine and fibrin. Some of the tissues are composed mostly of albumen, some of gelatine, and some of fibrin, and it has been conceded that our muscles are composed chiefly of fibrin; but then these several substances are derived from one, viz. from albumen, which in a different degree of animalization becomes gelatine, and in another degree fibrin.

When we merely touch a stone, a piece of paper, or a table with our fingers, or the point of a needle, we do not excite in those sub-

* BOSTOCK 138.

stances any change or tendency to change; but when we so touch certain living substances we do produce in them a modification of their density—we excite in them either sensation or motion, or both. The question here is, what is the nature of the motion we excite? Suppose it be a muscle, or an intestine, or a bladder, or any other organ whose movements we can observe, do we cause the muscle to stretch itself out lengthwise? Does the intestine expand? Does the bladder spring open? No—the effect of stimulation is shown by their contraction. When a muscle is elongated, or the stomach distended, or the bladder dilated so as to reach near the navel, it is owing to the antagonism of another muscle, or the presence of food, air, urine, none of these effects being capable of production by any intrinsic, inherent forces of the fibres of which they are composed; the action of those fibres only tend to contract these organs. All stimuli act by increasing the disposition to contraction, or condensation of the part subjected to the immediate influence of such stimulants. It seems to us very strange, after the admission of these facts by qualified physiologists of whatever name or nation, that some of those very physiologists should set up, as a plea for the doctrine of increased action, that our tissues *expand* when stimulated. The effects of stimulants or irritants are shown, say they, in the direct expansion of the tissues subjected to stimulation or irritation. But this is a new doctrine, one which has received but few followers as yet in this country, and which we are persuaded can not stand the test of a fair and impartial criticism.

It is a doctrine uncalled for by the necessities of the case, and has arisen out of the ingenuity of the gentlemen, who seeing calor, dolor, tumor, rubor, in inflamed parts, are resolved at all events to regard them as the products of invigorated action of the sanguiferous vessels of the part in which they are manifested.

We hope to show by sound reasoning and by reference to the practice pursued in the treatment of inflammations, that the advocates of the theory of diminished action of the vessels in inflammation have taken the really tenable ground in the controversy.

Since we have had the benefit of BICHAT's analysis of the tissues, great facilities have been afforded in the formation of correct pathological opinions; and yet not a little inconvenience and error have arisen from a disposition to simplify too much, to analyze too far. This inconvenience has been particularly felt, we imagine, in the discussions on inflammation, where the blood vessel system has

been regarded as too exclusively the seat and throne of the inflammatory affections. Into the composition of any part susceptible of inflammatory action, there must necessarily enter a very large proportion of nerves, absorbents and exhalants; and yet these are, for the most part, overlooked altogether, as having little concern in those processes. But a mere advertence to the anatomical structure of such parts should suffice to convince us, that they perform a very important role in all inflammatory affections; a role scarcely less important than that of the capillaries. It is manifest that no inflammation can exist without the coexistence of blood vessels, exhalants, nerves and absorbents, which, with the cellular tissue, constitute the *solids* of the inflamed part.

The sanguiferous apparatus consists of the arteries, capillaries, veins and heart.

Some physiologists are of opinion, that the blood is contained entirely in vessels, while others suppose that there is a point at which the blood ceases to flow in tubes, but spermeates the substance of our organs; or, in other words, enters freely into their parenchyma, and exists in an extra-vascular, or, to use a technical phrase, an extravasated state.

As for us we dissent from this latter opinion. 1. Because there is no known method by which such extravasated blood can be returned into the circulating system, save that of the absorbent vessels. 2. Because the microscope shows us vessels of such tenuity that one globule only can enter their calibres, and if this be so there can be no occasion for an extra vascular circulation. 3. Because we see on membranous surfaces, excited into inflammation, that red globules come to flow in definite tracks or courses, which we may fairly suppose to have previously been so small as to have conveyed only white and transparent fluids. 4. Because when blood is permitted to escape from open vessels and diffuse itself among the tissues, although urged forwards by a force doubtless equal to that which is supposed to drive it through the parenchyma, it nevertheless becomes decomposed and produces a diseased state called ecchymosis.

As we do not admit the parenchymatous circulation, which is asserted only on hypothetical considerations, and is not susceptible even of a demonstration from analogies, it follows that we regard all the blood of the body as contained in appropriate vessels; and, consequently, that there are continuous columns of blood, extended

from the heart through the arteries, capillaries and veins, back to the heart again.

If the above be a correct view of the facts, it must follow as a corollary, that when any part or section of one column of blood is moved forwards, 1st, either the whole column must move, or 2d, that some portion of the vascular parietes, within which it is restrained, must yield to the lateral pressure, and that such portion must be *dilated.*

Let us suppose the column of blood to be contained and limited within a non-elastic cylinder, as of iron, then every reader of this article would agree with us, that the forward motion of *any part* of that column would, by a continuous impulse, occasion the *whole* column to move, since the fluid is incompressible.

The heart, being placed in the centre of the vascular system, should be regarded as a real hydraulic machine, moved and set in action it is true by vital forces, which constitute its power, but nevertheless, it is a bona fide hydraulic engine. A lever is not the less a lever because it is moved by my muscular power set in action by my volition. The modes by which its powers are applied are inscrutable. It is highly probable that we never shall know the true source and principle of the heart's motion, or the means by which that principle is combined with and adapted to the matter of which the heart consists. It suffices us to know that the heart may be influenced either to augment or diminish its action by various means within the control of the physician. We have various means of causing the heart to act more vigorously or less so according to our pleasure.

It has been clearly shown by authors of credit, that when the ventricles of the heart react, they empty into the vessels a certain quantity of blood, and that the vessels receiving it do not, except it may be in the very large trunks near the heart, yield to the lateral pressure in any degree that is visible to the naked eye; but that the blood passes forward through the vessel without distending it or increasing its diameter; and further, it will be admitted that the pulsations of the arteries take place at *very nearly* the same instant of time throughout the whole extent of the arterial system. Thus, the stroke of the pulse is felt nearly at the same moment in the anterior tibial and in the carotid artery. This goes to show that the blood constitutes a continuous column; for if a column of blood reaches from the heart to the instep, then an ounce or more of blood thrown

into the aorta will cause the whole column to move forward at nearly the same instant of time. But, in addition to this, it may be relied on as a fact easily to be demonstrated by the microscope, that even in the capillary vessels the blood is often, *not always*, observed to move forwards per saltum, and that the same fluid sometimes leaps per saltum even from the veins in venesection, showing that the power of the heart is felt or propagated throughout the vascular system.

No calculations deserving of confidence have been or can be made as to the force exerted by the heart in its systole—it must be very great. 1. The vessels are always full during life; whatever be the quantity of blood they may contain. They press on the blood as closely after twenty ounces have been lost by hemorrhage as they did before it took place. 2. They have a perpetual tendency to lessen their calibres; if blood be drawn from them they will still press on it with their sides. 3. They have no power to open or dilate their calibres, but like all other hollow contractile tubes they must be kept open by an antagonist force. The same is true of the stomach, the intestines, and the bladder, which are kept open by gases, food, drink, urine; they never open of themselves. The vessels then are perpetually antagonizing the heart, whose contractions keep them full. The valves of the aorta and those of the veins prevent a retrograde movement of their fluid contents, and they necessarily urge the fluid forwards in a continual stream; so that, as the blood escapes in a forward direction, the power of the heart and the resistance of the vessels are kept in exact equilibrium.

We have no desire to stir again the oft disputed question of the vital contractility of arteries. We believe them to be so endowed; but we are met on the question of the same property in the capillary vessels by the free consent of all parties. In the present discussion it is a matter of absolute indifference whether our opponents admit the arteries to be du domaine de la sensibilité et de l'irritabilité or not; they may regard them as non elastic, or even copper cylinders, if they so please.

To proceed: The capillary system of vessels is eminently irritable, as seen in their constant alternations of redness and paleness, turgescence and contraction; they are affected by cold and heat, by stimuli of various kinds, mechanical, chemical and moral; they are now dilated and now contracted, and yet every capillary tube contains a column of b[illegible] the heart, and can not re-

trograde, because the valves of the aorta oppose such motion; there is no vacuum in it. The blood pushed into it from the arteries tends perpetually to dilate it laterally, and if its power of resistance were not always equal to the impelling force it would be dilated. A vigorous and free action of the heart is manifested in increased colour of the membranes—while a weak heart occasions paleness of those membranes.

Let the question be now asked, why are the capillary vessels fuller at one time than another; why does the membrane on which they creep look redder at one time than at another? The answer assuredly is, because they contain more blood, they are larger at one time than another, they are dilated more, they have received more blood from the heart and arteries.

This is the place where the two parties to this question separate. The advocates of VACCA's opinion asserting that increased relative power of a set of capillary vessels would not tend to admit more blood into them, would not make them redder, or more dilated, but would have a directly contrary effect; that by antagonizing *excessively* the force which brings the blood into them, they would become smaller, paler and more contracted; while the advocates of increased action say, that irritation excites the irritable solids, in that way dilates the capillaries, and occasions an attraction, an inviting (*appel*) of blood from the surrounding tissues to the irritated point. Irritation, say they, occasions increased action, which increased action is manifested by increased heat, colour, size, and sensibility. Let us now see what M. PUJOL has to say on this topic.

After speaking of the old definition of inflammation, (heat, pain, swelling, and redness) as not satisfactory, he proceeds to say that HOFFMANN announced the existence of what are now called subacute inflammations, as unaccompanied in some tissues with these pretended characteristics.

"BAGLIVI followed HOFFMANN, and asserted, from his own observation, that inflammation of the most sensible parts, such as the pleura, sometimes existed without any apparent sign of heat or pain; and what is more, without any febrile action. This observation of the Roman physician has been since confirmed and generalized by a very great number of other physicians: so that, among the signs formerly regarded as characteristic of the inflammatory state, not one can be estimated as such, save swelling and redness of the inflamed part. And even these two latter signs are extremely equivocal, since, according to LUDWIG, it is easy to confound an engorge-

ment of the veins with inflammatory engorgement, though the redness be the same in both cases, and since a part may swell and be much enlarged without a shadow of inflammation. * Besides, when inflammatory disorders exist in the interior of the body, it is not always possible, far from it, to assure ourselves of their existence by their volume alone, which is often infinitely small; and, on the other hand, how shall we determine by their colour the nature of disorders in those parts, inasmuch as they are wholly out of sight?"

"In a work of this kind, in which I am to treat of a kind of inflammatory diseases so obscure and undefined that their very existence is regarded by some persons as problematical, I think I ought to reject as uncertain and faulty those pretended characteristic signs that are not characteristic; and acquire concerning inflammation in general more just and precise ideas than have been hitherto entertained."

"In my opinion VAN HELMONT has approached nearer than any one else to a true idea of the causes, and of course, of the nature of inflammation. To the formation of this disease, the concurrence of two things appeared to him to be necessary; 1. The local action of an acid stimulus upon a sensible part; and, 2. The afflux of arterial blood towards the part kept in a state of irritation by this stimulus, which, by a bold metaphor, he loved to designate under the title of the thorn. According to the principles he had adopted on this subject, as soon as his acid thorn began to act on the flesh or viscera, ARCHEUS became enraged, and directed the current of blood upon the part irritated: hence the engorgements, distensions, agitations, and, generally, all the ordinary symptoms of inflammation."

"If we substract from this theory of VAN HELMONT the acid quality which he gives exclusively to his inflammatory thorn, and give to his ARCHEUS, which is nothing more than the *Nature* of HIPPOCRATES, and the Vital principle of the moderns, a little more regularity in the exercise of his tutelary action; and if we try to acquire more precise ideas concerning the circulation of the blood, and the structure and functions of the parts susceptible of inflammation, we may easily, if I mistake not, seize the real characters of those sanguineous derangements, which constitute inflammatory diseases."

"In the first place, I believe with VAN HELMONT, that a condition, necessary in all inflammation, is the action of a fixed and stimulating cause on an irritable and sensible part. But this local action does not alone constitute inflammation; it is only its *principle*, and its occasional cause. However, this stimulus already occasions in the living organs which it irritates, certain constrictions and crispations, which contract and even efface the capillaries that are most in reach of its action. This alone may constitute

the matter of a simple, cold obstruction: for in this case, as HALLER has proved on the vascular capillaries of frogs, the globules stop, and adhere to each other, and do not flow back, except partially, into the free arterioles of the neighbouring tissues. On the other hand, the absorbent orifices, situated in the affected part, become contracted by the irritation, and either do not take up at all, or at least they take up imperfectly, the mucous and adipose contents of the cellular tissue; the consequence of which is, they stagnate, and gradually accumulate in that tissue; by the continued action of these two causes, and especially the latter, there must be gradually formed a tumour, rather lymphatic than sanguine, and whose essential characteristics will be inaction, indolence, and coldness. Such indeed is the origin and nature of a great variety of glandular and visceral obstructions, which, produced by the secret deposition of acrimonious and morbific matter, commonly resist the most boasted aperitives, and at last yield to the methodical exhibition of narcotic poisons, which act in such cases only by placing the absorbent orifices, and the lymphatics, and sanguine capillaries, in a state of relaxation (*detente*)."

We invoke the candid and dispassionate judgment of the reader upon this plain and unvarnished statement of facts, by the learned and sagacious PUJOL. Even those who deny the HALLERIAN doctrine of irritability, and who, going farther than HALLER, assert the existence of vital contractility in tissues where neither fibrin or muscular fibre can be detected, we invoke them to show, how the first consequences of irritation can be other than those which have been above detailed. It seems that candour can not but admit the fairness of our author's premises, as well as the legitimate character of his conclusions from them.

"But," says M. P. "if, in consequence of irritation, there should supervene upon this principle of *cold obstruction*, an increased arterial action, the situation of affairs becomes changed; the blood makes redoubled efforts against the obstacles; and being unable to overcome them, flows backwards with a force proportionate to that of its impulsion, towards all the collateral vessels. The lymphatic arterioles, whose calibres in the natural state will not admit red globules, and which I regard as the real secretory organs of the adipose fluids, are obliged to dilate for their reception. It is by this deviation of the globules into the lymphatic and arterial channels, into which a superior force impels them, that the blood is effused into the meshes of the cellular tissue, where these channels terminate. Having once reached this point, and the constricted mouths of the absorbents being unable to remove them, they must be arrested, and of course accumulated. This is the true cause why inflammatory tumours grow so rapidly when the action of the

arteries is very much increased; the cause why sanguineous fluids predominate in such tumours; and the true reason why they become larger than any where else, when occupying situations abounding in adipose tissue."

"But whence this vital effort, (when the irritating cause is energetic, or when not being in itself energetic, yet acts on exceedingly sensible parts), which determines upon the parts the impetuous affluxion of blood above described?"

M. PUJOL says, we must here refer to that internal vivifying principle, which, apparently a unit in essence, is nevertheless present in every part of the body, in varying proportions, according to the dose of vitality with which each part is provided by nature; which, is the *mobile* of all the functions, and the real agent of all vital operations in health and disease.

After alluding to the general consent of parts, by which one portion of the system feels and sympathises with another portion, he proceeds to show that the vital principle is the grand moderator of this correspondence, under a few simple laws, dictated by the creator; but which, though few, yet acting in various kinds of organisation, produce the most diversified results.

M. P. knows only two general laws, or rather two intermediate agents, employed by the motorial principle to operate the astonishing phenomenon of life, and direct the animal movements, both in health and disease. These agents are the nerves and the blood vessels.

The author in the next place alludes to the real and powerful sympathy that exists between arterial vessels, that are suffering the impression of local irritants, and those which, though not *immediately* irritated by the morbific stimulus, are nevertheless placed in the vicinity of the irritated ones. The former, he avers, remain constricted, (*crispés*) and refuse a free passage to the blood; but the others, by redoubling their efforts, seem to desire to overcome the resistance they meet with.

We remark here that as the pulse is occasioned by the passage of a wave of blood through an artery, the size or volume of the pulse will be proportional to the quantity that passes through the vessel at every systole of the heart. Now, if an inflammation exist on one of the fingers, and that inflammation be marked by a distended state of the capillary arterioles, we shall, in its commencement, observe no increased size or volume of the arterial pulse a[illegible] but, in proportion as the inflammation b[illegible]e, we shall perceive an

increase of the volume of that pulse, and be able sometimes so to trace it far up the arm. But let us ask, if inflammation depends on, or is co-existent with, an enlarged or dilated state of the capillary vessels, the small arterioles, what inference ought we to draw from an enlarged or dilated state of the larger tubes, of which the small ones are only continuations, or prolongations? If you admit the small arterioles to be dilated and weakened, then the same is true of enlarged arteries, but if dilated capillary arterioles are taken as proof of increased action, then the same is true of arteries in a similar predicament.

We leave these remarks for the present with the reader, and shall recur to them by and by.

"The suscitation," says M. P., "of arterial movements in the vicinity of an irritated part is not commonly a sudden, nor even a rapid operation. Its beginnings are insensible, and when the play of the arteries is sufficiently augmented to render it perceivable, it is still observed to grow by successive, and more or less gentle augmentations, until it reaches a degree of morbid activity proportioned to the causes which may have excited it."

The above quotations serve to set in a clear light the author's views of the real nature of irritation—views that are wholly different from those entertained by the physiological school, who pretend that the effect of irritation is to produce a direct and immediate attraction or *appel* of fluids to the irritated part; and this, by consequence of a direct and *immediate* expansion of the channels in which the blood flows, an expansion independent of extrinsic force, but intrinsic, and, as it were, sui arbitrii: this position is contrary and offensive to every ascertained law of vital motion—a pure assumption—an hypothesis not to be defended—a sophism.

"It should be observed here that the inflammation of an irritated part commences at the same instant with the increase of relative action in the surrounding vessels, however low in degree, for, from that moment the blood is impelled towards the inflamed parts with a force greater than that which causes it to flow towards other parts, because the essence of the inflammation *consists only in the local superiority of this arterial effort.* Hence it results, that there is a point of time in which the several inflammations are unknown to the patients themselves; and that from the *minimum* to the *maximum* state of inflammation in general, there is no fixed degree to which it must rise, or at which it must stop. Every thing here depends on the strength of the local irritation, and the part acted, in relation thereto, by the circumjacent arterial branches."

We do not concur with the opinion of M. PUJOL, as expressed in the extract above. We regard him as having here lost sight of that unity and simplicity which characterizes the operations of nature, and which he so admirably expounds in his history of *irritation*. Let us suppose with M. P. that irritation is demonstrated by a constricted state of vessels subjected to the irritating cause; let that irritation be confined to a single point, as for example, let it be occasioned by the sting of a bee—every body knows that the irritation here is shown by a remarkable paleness of the spot which has been stung—and that this whiteness or paleness (dependent on the constriction and comparative emptiness of the irritated capillary vessels of the part) soon gives place to a high degree of redness and other phenomena of inflammation. Now, in this case the redness does not commence in a distant circumference, but the very vicinity of the puncture grows red, and extends to a certain distance all around it.

Let any reasonable man here answer the question, why should an irritated part be at first pale, then red? Can he avoid agreeing with M. PUJOL, that the paleness is owing to the circumstance that less blood is in the capillaries, and the subsequent redness to an augmented quantity? How can a part be pale if an afflux or an attraction takes place? It is manifestly an error.

Is it not an ascertained fact that no vital contraction can be continued long without an intervening relaxation: does it not happen so with our voluntary muscles, the heart, diaphragm, stomach, intestines, bladder, &c.? Does not every *inordinate* exertion of vital power, whether muscular or other, occasion a subsequently weakened state of the organs that may have exhibited it? If the heart have been excited by rage, or any stimulus moral or physical, is not a weakened state of that organ an invariable consequence?—so of our muscles, &c. Now, let us but apply this truth to the matter in question.

The stimulus of the sting (call it, if you please, VAN HELMONT'S thorn) occasions a violent constriction of the capillaries within reach of its poisonous irritation. They, like all other tissues capable of contraction, become constricted; they exclude their blood more or less completely, and maintain that state until their power, which had been so much energized, commences its reduction or return to a natural state—for there is a point in which they are brought back to a natural state, but they librate beyond that state, their

violent action has exhausted their vital power, and they are left weakened by exertion; they are disenergized and yield to the impulse of the collateral vessels, which, at given distances from the focus of irritation, had not felt the stimulating, irritating poison of the bee. The surrounding vessels (not inflamed) maintain their relative, resisting, antagonizing power; but the irritated vessels, (weakened by over stimulation, disenergized) unable to resist or antagonize the force with which the heart and circumjacent channels tend to dilate them, give way to the impulse, are injected, over distended, filled with blood. They are therefore weaker than in the natural state, and weaker than the surrounding capillary blood vessels. M. PUJOL has departed from the principles with which he set out by averring that the surrounding vessels have acquired a power of making redoubled efforts: they have acquired no such power. Their efforts tend only to exclude the blood from their own channels, and were it not for the column pressing on their contents a tergo, their blood would flow towards the heart, or qua data portæ. If the vessels collateral to a set of inflamed vessels could be supposed to be provided with valves like those of the veins and absorbents, then we could conceive of their acting, as M. PUJOL has stated, but the numerous anastomoses, which are known to exist in the capillary system, permit the blood to flow off too readily from newly inflamed channels, to admit the idea of their directing all the force of their parietal contractions against the irritated tubes.

It seems to us very extraordinary that the advocates of the opposite doctrine should see in their therapeutical opinions any circumstances confirmatory of their sentiments.

If a membrane (as the pleura or peritoneum) become inflamed, the practitioner puts in operation certain methods of cure or relief, of which the chief is venesection. Now upon what principle is this remedy employed? To moderate the force of the heart's action! But wherefore moderate the force of the heart's action in a case of congestion or infarction of blood, which is actually occasioned by, demanded by, and maintained by a vital turgescence, an increased action, an active expansion of the vessels in which the blood is so accumulated? What has the heart to do with the matter? You tell us that when a part suffers irritation, it feels the want of more fluid, and invites its afflux from all parts of the system; it demands it, and must have it. I see not how the abstraction of a few ounces of blood from a vein in the arm should alter the demand or necessity for an afflux of blood to the irritated centre. You do

not bleed in pleurisy at this time of day with the antiquated notion of derivation, surely! You do not bleed or leech the feet for inflammation of the arachnoid! No; your view in this operation, like ours, is to lessen the force with which the heart drives the blood into the irritated tissues; the fever, symptomatic of an inflamed pleura, scarcely exciting your fears, irrespective of its influence on the inflamed tissue.

Now, to follow out your doctrine of increased local action of vessels, the best practice in local inflammations is to employ leeches and cups and scarifications; but which of you would rely on these means to the exclusion of the lancet, which, in all cases of an excited circulation, you hasten to employ for the purpose of preparing the way for the successful operation of your local bleedings, and often, to obviate all necessity for their use. You do not lay aside the lancet in croup, and resort exclusively to the leech. Nay, in external superficial inflammations, do you place your leeches directly upon the inflamed vessels, and has not experience taught you to apply them on the most distant circumference of the inflammatory engorgement? You do not trust solely to leeches in ophthalmia!

We conceive then that the principles of practice are on our side in this controversy. We bleed in pleurisy to take off some portion of the force with which the heart and arteries impel the vital fluid into the weakened capillaries, and this, under the persuasion that the loss of blood will have no other effect on the diseased and weakened part, than indirectly to bring its resisting force back to a state approaching the equilibrium. There are cases of ophthalmia, almost unaccompanied by fever; we may leech and cup and blister, and employ lotions, &c. until the patience of the sufferer, and our own are exhausted; but three or four bleedings at the arm, *which can not be supposed to direct their therapeutic power solely to a small patch of inflamed capillaries on the conjunctiva*, cure the patient at once; and this by taking off the pressure, the disproportioned force with which the blood was driven by the great agents of circulation, into those weakened, unresisting tubes; and enabling them, by a gradual return of their relative contractile power, to exclude the superabundant blood from their engorged and over distended channels.

We shall release the attention of the reader, after a few remarks on the part played in inflammation, by the exhalant and absorbent vessels of the part.

It will be admitted that every point of the living system is subject

to the action of absorbent vessels, for it may be removed by them; it is equally plain that every particle of matter has been deposited in its place by an act of nutrition. It is a matter of indifference here whether there be, or be not an exhalant orifice, through which the substances destined to repair the waste of our organs must pass to be deposited, or whether a distinct absorbent tube opens its orifice for every particle of matter; these questions, like those about the extent of space, the duration of eternity, the divisibility of matter, &c. are food for metaphysicians and not for us.

Nevertheless we do know that a system of exhalants, conveying no red globule, and another system of absorbents, are very generally diffused among the tissues, and that like the capillaries they are du domaine de la sensibilité et de l'irritabilité, as M. Broussais expresses it. Are the exhalants capable of passing the red globules through their channels, so as to throw them out upon the surfaces on which they open? That they can do so we often witness in the sanguinolent sputa of pneumonia, in dysentery, &c.

It is clear that in inflammation there is a stasis of fluids, and not simply an augmented flow of fluids through the diseased part; but if a complete stasis takes place in the capillaries, the part becomes cold, livid, insensible, and the condition, denominated gangrene and mortification, exists. Stasis of *blood* in the *capillaries* can not be averred therefore of the inflammations that terminate in resolution, but the exhalants may throw out upon the cellular surfaces a certain quantity of fluids, whether serum or coagulating lymph, which the absorbents can not or will not take up while they are themselves irritated or constricted by the same cause which affected the capillaries: blood even is poured out from the exhalants in some states of inflammation; and hence, after the heat, pain, and redness of a recently inflamed part have totally disappeared, we find a remaining hardness and tumefaction, which does not disappear until the absorbent vessels of the part, either by a spontaneous return to their natural state of power, or stimulated by our liniments and frictions, are enabled to remove every vestige of the disorder which had recently modified all the component tissues of the inflamed portion.

Such are the views of M. Pujol. We regard his theory as eminently rich in pathological truths and therapeutical indications; and with the exceptions pointed out in this article, we most cordially concur in his estimate of the pathological occurrences that take place in inflammation.

Bibliographical Notices.

ARTICLE XV.—*Précis Historique de l'épidémie qui règne a Marseille, et vues nouvelles sur la Vaccine, considérée comme une simple petite vérole locale, et sous ce rapport n'exemptant pas toujours les vaccinés, dans les grandes épidémies de variole, des atteintes de la varioloïde, qui n'est elle-même qu'une petite vérole mitigée, mais qui, dans quelques circonstances particulières, peut néanmoins devenir confluente et maligne par ses complications; suivies d'un apercu sur les moyens de prevenir dorénavant l'irruption de cette dernière maladie. Lettre à M. le docteur* DESGRANGES, *Doyen des Médecins de Lyon, membre de plusieurs sociétés savantes, nationales et étrangères. Par* L. J. M. ROBERT, *Professeur d'hygiène navale a l'école de médecine de Marseille, &c. &c. Marseilles, Aug.* 1828, 8vo. *Pp.* 128.

A Historical Sketch of the Epidemic prevailing at Marseilles, together with new views of the vaccine disease, considered simply as a local small pox, and for that reason not always exempting the vaccinated from being attacked, during extensive epidemics of small pox, by the varioloid, which is itself merely a modified variola, but which, under particular circumstances, may nevertheless by its complications become confluent and malignant: followed by a notice of the means of preventing in future the occurrence of the latter disease; in a letter to Doctor DESGRANGES, *dean of the medical faculty at Lyons, member of several learned societies, national and foreign. By* L. J. M. ROBERT, *&c.*

The title of this publication expresses very fully the nature of its contents; and though we may feel inclined to dispute the correctness of some of the hypotheses advanced in it, yet an examination of these would be misplaced in a notice like the present. The work has been taken up principally with the intention of showing by it, that, while the small pox prevailed as an epidemic during four months of the past year at Marseilles and in its neighbourhood, the leading facts observed in regard to the degree of protection from the fatal effects of the disease enjoyed by those who had been subjected to vaccination, are precisely the same as those observed during the visitations of the small pox in various other parts of the world, and tend strongly to confirm our confidence in the discovery of JENNER.

The epidemic at Marseilles appears to have been one of peculiar virulence, attacking, in many instances, the vaccinated and variolated as well as the unprotected. From the first of May to the fourteenth of August, it destroyed 1230

unprotected individuals.* It is impossible to say how many deaths occurred, during the same period, in those who had been vaccinated or inoculated, but when it is stated that of the vaccinated, the great mass, "like another column of granite continued to present an invulnerable front to the epidemic," (page 40,) we must conclude that the whole number affected with the modified disease, and, of course, the amount of deaths in the protected were extremely few; indeed the author states in general terms, that "the number of the vaccinated attacked by the varioloid never amounted to one per cent., and that in these, the disease was very mild, excepting in a few cases in which *certain complications* rendered it severe or even fatal."—Page 54.

Some general conclusions in relation to this subject may be drawn from the records of the Hôtel-Dieu at Marseilles. During the first month of the epidemic there were admitted into this Hospital 259 cases of genuine small pox, 30 of which were in individuals said to have been vaccinated; of these 27, including two of the vaccinated, terminated fatally. There were also admitted 50 cases of varioloid occurring subsequent to vaccination, all of which recovered. Dr Robert states that the disease, as it occurred after vaccination at Marseilles, "was in general so mild that the majority of the patients were not seen by any physician." M. Dugas, physician to the Hôtel-Dieu, we are informed, did not lose a single patient with the varioloid, either in the hospital or in his private practice.

Dr R. refers to twenty-six cases of death from secondary small pox; in some of these the patients were deeply marked by the first attack. We should infer from several observations contained in this work, that secondary small pox was proportionably far more fatal than the varioloid.

The author accounts for the fact of some of the vaccinated becoming readily affected with the varioloid, and the greater violence of the modified disease in certain cases, by supposing that the constitutions of these individuals had not been placed fully under the influence of the vaccine infection, from the following causes.

1. The imperfect manner in which vaccination had been performed; or its being performed by persons ignorant of the progress and specific characters of the disease.

2. Interference with the regular progress and maturation of the vesicles; particularly by their being accidentally ruptured, or intentionally opened.

3. The number of the vesicles produced upon the arm in vaccinating being too few to render the protection of the system complete.

4. "With respect to those patients," says Dr B. "in whom the varioloid was peculiarly severe or fatal, I do not think I shall go too far in attributing this circumstance, independent of a defective or incomplete vaccination, to the intensity of the reigning variolous epidemic, to the length of time which had elapsed since their vaccination, and above all to idiosyncrasies of constitution, under the influence of a particular atmospherical constitution."—Page 45.

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* In 1808 the population of Marseilles was computed at 90,000, and does not probably vary much from that at present. In 1825, during the prevalence of the small pox in London, with a population of 1250,000, 1252 died; and in Philadelphia, with a population of about 150,000, during the small pox epidemic of 1827, 100 died!

The supposition that the protective influence of the vaccine, as well as of the variolous infection, is lost, or at least greatly weakened, by the lapse of time, is much insisted upon in this work; quoting the statement of Dr ALMON, contained in a letter to Dr WARREN of Boston, that "the varboloid was always observed by him to be more severe in individuals who had been long vaccinated;" the author adds, "the same observation was daily verified in the epidemic of Marseilles, to which many fell victims, who had been a number of years vaccinated, as well as adults marked by the natural small pox."

A close attention to this subject, during two extensive visitations of small pox, has led us to a contrary conclusion, so far as it regards the vaccine infection—very many facts have fallen under our notice, proving incontestably that those who have been vaccinated enjoy an equal degree of protection from the fatal effects of small pox, whether one week or twenty years have elapsed since the period at which the operation was performed.

Near the close of the work is the following important sentence: "This epidemic has undoubtedly exceeded in intensity every other heretofore described, and by it many of the vaccinated have been severely affected; nevertheless the majority of the latter have passed through it untouched, and every fact connected with it tends to prove that if vaccination were to become universally practised, France would be for ever delivered from the variolous contagion, as she now is rendered safe from other exotic contagions by her sanitary regulations."

φ. κ.

ARTICLE XVI.—*Jahrbücher der Ambulatorischen Klinik zu Halle. Herausgegeben von* PETER KRUKENBERG, *Der Heilkunde und Wundarzneikunde Doctor, Professor der Medicin an der Vereinigten Unversitaet Halle—Wittenberg. Vols. I.—II. Pp.* 394—404. 8*vo. Halle.*

Annals of the Ambulatory Clinic at Halle. Edited by PETER KRUKENBERG, *Doctor of Medicine and Surgery, Medical Professor in the United Universities of Halle and Wittenberg.*

The Ambulatory Clinic was established at Halle in the beginning of the year 1816, and is supported by an annual appropriation from certain public funds of 750 rix dollars. The objects of the institution, which resembles in some of its features our dispensaries, are to afford gratuitously medical attendance to the poor, to present to a certain number of young physicians an opportunity for clinical instruction, and generally, to aid in extending the limits of our science.

The patients who wish to take advantage of the institution either attend daily at the office, or if confined to their beds, or circumstances render their going out improper, they are visited at their own dwellings. For the latter purpose the city is divided into six districts; each one of which is placed under the superintendence of a physician who has attended the clinic, in the capacity of junior, for at least one or two years; with him are associated from three to six of the juniors, who take charge of the more simple cases, in the management of which they are assisted by the advice of the former: difficult cases are referred to the

assistant physician, or to the most experienced of those attached to the institution—the lecturer visiting them whenever it is requested by the attending physician or by the patients.

Every one who applies to the Clinic receives attendance—the poor gratuitously; "but many of the patients purchase their medicines, being satisfied with free attendance—others, not only procure their own medicines, but recompense, also, the physician for his advice." The money received from this source is applied to the support of the extremely indigent, and to meet various trifling expenses of the institution. Clinical lectures are delivered every day between the hours of 11 A.M. and 2 P.M. by Dr KRUKENBERG.

It is impossible for us here to detail all the peculiarities of this institution. In general they appear to us of such a nature as cannot fail of rendering it a valuable school for clinical instruction. We fear that many years will elapse before any thing of a similar kind can be attempted in this country with any hopes of ultimate success.

The annals of the Clinic at Halle have been undertaken by Dr K. principally with the view, to use the editor's own words, "of presenting periodically to the medical public an account of the manner in which he has fulfilled his duties as clinical lecturer to the institution, and, at the same time, as far as his abilities and the opportunities he possesses will admit of, to contribute to the advancement of a science to which he is ardently attached, and to which his entire life has been devoted."

The two volumes which have reached us have led us to form a very favourable opinion of the talents of Dr K., and we trust that his efforts towards the diffusion of medical knowledge may be crowned with success. Of these volumes, we regret that our limits will not permit us to take any other notice than merely to enumerate their respective contents.

The first, besides a history of the establishment and progress of the institution, meteorological observations for the years 1816, 17, 18, and a mineralogical description of the environs of Halle from the pen of V. VELTHEIM, intendant of the mines, comprises also an account of the more important epidemic diseases which occurred at Halle from the commencement of the Clinic to the year 1819, together with the modes of treatment by which they were most successfully combated, illustrated by a number of select cases. The diseases described are inflammatory bilious fever, contagious typhus, catarrhal fever, rheumatic fever, pertussis, measles and scarlatina. The descriptions are drawn up in a plain but masterly manner, and the plans of treatment laid down, are, in their general outlines, highly judicious: they indicate a mind habituated to an attentive study of diseased action, as it presents itself in the various organs of the body—willing to test the correctness of its diagnoses by the information to be derived from pathological anatomy, and one perfectly conversant with the modern improvements in pathology and therapeutics.

The second volume contains meteorological observations for the years 1819, 20, 21, 22, a clinical examination of the air and water of the wells of Halle by Dr MEISSNER, accounts of the acute hydrocephalus, of inflammations of the ear, and of chronic gastritis: together with several interesting cases of medullary tumours of the brain, softening of the stomach and intestines, various affections of the liver, intussusception, internal strangulation of the intestines, &c. &c.

We recommend the Annals as a work replete with interesting and useful matter, and as deserving a place in every medical library. Q. R.

ARTICLE XVII.—*An Oration delivered before the Philadelphia Medical Society, February* 18, 1829. *By* CHARLES D. MEIGS, M.D. *Honorary Member of the Society; Member of the American Philosophical Society. 8vo. Pp.* 28.

In the performance of the duty imposed upon him by the constitution of the society, the orator on the present occasion has selected for his subject, medical education.

To the individual about to commence a course of medical studies, a more important or interesting subject cannot be presented for his consideration, than the best means of acquiring a knowledge of the profession to which he has devoted himself, and which is to become the entire pursuit of his future life. From the want of a correct examination of this question, how many are there, who have to regret much valuable time wasted in studies, if they deserve the title, that have had no tendency, or a very remote one, to supply them with that knowledge so essential at the bed side of the sick!

Were nothing more required now to constitute a physician than was formerly; were it only necessary for him to be acquainted with the leading rules of practice, as laid down in the writings of GALEN, CELSUS, BOERHAAVE, CULLEN, BROWN, or some other fashionable authority; to be familiar with the names and definitions of diseases; to have the memory loaded with prescriptions, sanctified by long use, and transmitted from one teacher to another, or servilely copied from books; and, finally, to be able to shield himself from all difficulties in the mystic language of the doctrines of the day, nothing would be more short and easy than the road to the temple of medical science. But, at the present day, to obtain admission, it is required that the candidate be possessed of qualifications much more extensive, and much less easy of acquisition.

It is true, when we consider the immense number of medical writings which have been presented to the world, professing to comprise the accumulated light and experience of all preceding ages, and to open to our view an almost boundless fund of knowledge, nothing would appear more easy than from them to make ourselves masters of every thing necessary, in order to know, distinguish, and heal, all the numerous ills that flesh is heir to. But, however valuable to the physician may be that vast collection of facts, observations and opinions, of which our medical writings are composed, yet the individual, who shall attempt, by an indiscriminate study of these, however prolonged or attentive, to arrive at the knowledge of our profession, will find himself lost in a wilderness, without either compass or guide to direct his steps to truth and certainty on the one hand, or to guard him from error and delusion on the other.

Hence is it all important, not merely that the student should bring to the task every talent and acquirement necessary for its accomplishment, but also that the plan should be pointed out to him, by following which, his labours will most certainly be crowned with success. To lay down such a plan is the chief object of the oration before us; and so far as the limits, to which on such occasions the speaker is necessarily restricted, would permit him, Dr MEIGS has succeeded in sketching the outlines of a course of medical studies, the excellence of which, no one will, we are persuaded, be inclined to dispute.

Previously to his entering upon this course, the orator has insisted that the

individual so intending, shall be properly prepared by the possession of that knowledge which is usually expressed by the terms classical, or liberal education. In so doing he is supported by the opinions of a majority of the most distinguished members of the profession both at home and abroad; and we sincerely regret that upon a subject of so much importance the requisitions of our medical schools are almost entirely silent.

Want of learning in the labouring classes of society excites in us no sentiments of contempt. To their occupations learning is not essential; and the restricted circumstances under which they are most generally educated, with the necessity, in after life, of constant application to manual labour, allow them no opportunity for its acquisition. But an illiterate physician can never fail to be contemptible; for learning being intimately connected with the profession of which he is a member, we expect to find in him the accomplished scholar, and are disappointed when it is otherwise.

To no one with propriety can the term scholar be applied who is unacquainted with the Greek and Latin, consequently a knowledge of these is considered a prerequisite in the aspirant after medical honours. Neither should he neglect the study of the modern languages: if ignorant of the French, German, and Italian, the physician will find himself excluded from a vast and highly important mass of knowledge, the want of a familiarity with which he will severely experience at the bed side of his patient, as well as in his intercourse with the more intelligent and better educated members of the profession. It cannot for a moment be supposed, that by these acquirements a barrier will be erected which cannot be readily overcome by every individual possessed of ordinary talents, desirous of entering the profession, and at an age sufficiently early to allow of full time for acquiring the necessary amount of medical knowledge. Let the scholar be at first initiated fully into the Latin, and he has in his hands the key by which almost every other European language can be acquired with much facility, and in a period far shorter than is generally imagined.

It is hardly necessary to say any thing of the necessity to the physician of an acquaintance with, and a facility in writing his own language. Every medical man should indeed be a writer; so far at least as to be capable, when an occasion requires it, of communicating his sentiments in language perspicuous and correct.

But to be a mere linguist, or fine writer, is not exactly the liberal education we should require of the individual destined to the study of the medical profession. However necessary we consider a knowledge of languages to be to the physician, yet there are other branches of knowledge of the first importance to him, the foundation of which, at least, must be laid previously to his entering upon those studies of a more strictly professional character.

The human body is so materially influenced by every thing that surrounds it, and by every varying circumstance under which it is placed, whether of a physical or moral nature; so numerous indeed and diversified are the causes necessary to support our organs in a healthy discharge of their functions, or which tend to induce in them a state of disease, that the physician, not merely to make good his claim upon the respect of the learned, but also that he may justly merit the confidence of the sufferer and the gratitude of the public, is bound to store his mind with as extensive a collection of facts, whether relating

to man himself, or to the phenomena of the natural world, of whose surface he is an inhabitant, as his time and the facilities afforded him will permit.

Without referring to those sciences, such as chemistry and botany, which are very generally confessed to be indispensable requisites in a medical education, there still remain other auxiliary branches of knowledge much neglected, it is true, by medical students in general, but yet not less important to constitute the judicious and successful practitioner. It has been very properly said, that there is scarce a circle of human knowledge upon the boundaries of which the scientific physician does not necessarily infringe in some point or other of his extensive orbit.

It is from an acquaintance with the difference and changes of the seasons at any given situation; with the currents of air prevalent at particular periods of the year, as well as the nature of the districts over which they pass; it is from an acquaintance with the qualities of the soil and water in the several parts of the globe; the nature of a country's surface, whether spread out in wide extended plains, undulated by a succession of hill and valley, or intersected by mountainous chains; whether parched by drought or liberally supplied with moisture; whether abandoned to the spontaneous productions of nature, or cultivated by the hand of man; it is from a knowledge of the food, occupations and pursuits, both public and private, of the inhabitants; their clothing; the mode of construction and location of their dwellings; nay even from an acquaintance with their governments, and their religious rites and opinions, that the physician is to derive no inconsiderable light in relation to the causes and pathology of diseases and their modes of prevention. It is important, therefore, for every one who proposes to enter upon the solemn and highly responsible duties of a medical practitioner, that he diligently pursue the study of the natural sciences in the most extensive signification of the term, of history, geography, and all those co-relative branches of human knowledge, capable of placing at his command the important facts, the leading heads of which we have thus superficially traced.

"The physician should, indeed," to use the words of an excellent writer, "from his earliest years, be educated with the view to his future profession. If the best portion of his youth have been directed to other pursuits, he will seldom have time to acquire that extent of information and readiness of application which the practice of his art so eminently demands."

We have been led into the above remarks by the very excellent oration of Dr Meigs, the perusal of which we recommend to our professional brethren as well as to the medical student. φ. z.

ARTICLE XVIII.—*A Practical Synopsis of Cutaneous Diseases, from the most celebrated Authors, and particularly from Documents afforded by the Clinical Lectures of Dr* BIETT, *Physician to the Hospital of St Louis. By* A. CAZENAVE, M.D. *and* H. E. SHEDEL, M.D. *&c. Translated from the French, with Notes.* Philadelphia, Carey, Lea & Carey, 1829.

To say that the Hospital of St Louis is the best clinical school for cutaneous diseases, and that Dr BIETT is deservedly celebrated as a teacher and practitioner in this institution, will, we apprehend, be a sufficient passport for the introduction of the above work to the favourable opinion of our readers. It is methodically arranged and clearly written. There is no idle declamation or far fetched comparisons to astonish and bewilder us; but in place of these we have presented in due succession a brief pathological history of the symptoms, causes, diagnosis, prognosis and treatment of every disease affecting the cutaneous system.

In a sensible introduction, the editors have favoured us with a critical history of the classifications of the diseases of the skin; and have introduced, for their own guidance and adoption, in the work, that of WILLAN, with the modifications by M. BIETT. We cannot perhaps do better than copy the following tabular view in which is exhibited the "Order in which the diseases of the skin are classed and described."

Order I.—EXANTHEMATA.
Erythema.
Erysipelas.
Roseola.
Rubeola.
Scarlatina.
Urticaria.

Order II.—VESICULÆ.
Miliaria.
Varicella.
Eczema.
Herpes.
Scabies.

Order III.—BULLÆ.
Pemphigus.
Rupia.

Order IV.—PUSTULÆ.
Variola.
Vaccinia.
Ecthyma.
Impetigo.
Acne.
Mentagra.
Porrigo.

Order V.—PAPULÆ.
Lichen.
Prurigo.

Order VI.—SQUAMÆ.
Lepra.
Psoriasis.
Pytiriasis.
Ichthyosis.

Order VII.—TUBERCULA.
Elephantiasis Græcorum.
Molluscum.
Frambæsia.

Order VIII.—MACULÆ.
Discolorations.
Bronze colour.
Ephelis.
Nævus.
Decolorations.
Albinism.
Vitiligo.

Diseases which cannot from their nature be arranged with the above.

Order IX.—LUPUS.
Order X.—PELLAGRA.
Order XI.—SYPHILITICA.
Order XII.—PURPURA.
Order XIII.—ELEPHANTIASIS OF THE ARABS.
Order XIV.—DISEASES OF THE SEBACEOUS FOLLICLES.
Order XV.—KELOIDE.

Distinct and characteristic peculiarities of each of these orders are next given, which we wish very much that we had space to transcribe. It is not merely for obtaining a knowledge of the more chronic forms of cutaneous disease that a reference to this work is valuable. The directions for the treatment of the acute varieties such as erysipelas, measles and scarlatina are clear and pertinent, and contrast very satisfactorily with the confused and empirical curative methods found in what are generally considered standard works.

We do not well see how any practitioner at all desirous of the correct diagnosis and successful treatment of cutaneous diseases can decline becoming the possessor of the volume now under consideration. The title on the back is, we find, *Cazenave on Cutaneous Diseases.* The translator's language is good; and the notes which he has added are strictly "germain to the matter." If the punctuation be exceptionable, in not sufficiently subdividing sentences, we must blame the original writers, for this is a national sin in French medical composition.

ARTICLE XIX.—*A Treatise on the Scrofulous Disease. By* C. G. HUFELAND, *Physician to the King of Prussia, &c. Translated from the French of* J. B. BOUSQUET, *of the Medical Societies of Paris, Thoulouse, &c. &c. By* CHARLES D. MEIGS, M.D. *Member of the American Philosophical Society.* Carey, Lea & Carey, John Grigg, &c. Philadelphia, 1829.

Scrofula, though a name of such ominous import to all classes of the community (except to the empiric who flourishes on others' fears and credulity) has not engaged that systematised inquiry from physicians to which it is so peculiarly entitled by its insidious approaches, its deep and extensive roots in the animal economy, and its unseemly and dangerous consequences. Scrofula is not to be waited for until ulcerations and tumours of the superficial lymphatic glands have declared themselves. It ought to be checked ere it has made such fearful advances, and not allowed to become the subject of conjectural medication and professional reproach.

An English translation of the work of Professor HUFELAND has been much wanted amongst us, and we hail its appearance with pleasure, convinced as we are that they who study it with any degree of attention, cannot but have clearer

views of a proteiform disease, and increased ability and confidence in the employment of curative means for its removal. They will not after having perused its pages, find their scrofulous patients weary of their doctors and prone to indulge in all manner of empiricism: nor will they unwillingly deceive by promising or performing partial cures, to be followed by aggravated disease and suffering. We cannot perhaps give a better specimen of the author's pathological acumen, nor a more salutary lesson to all concerned, than by inserting here the following paragraph.

"We break up the habits of nature when we suddenly disperse, by means of topical applications, long standing local affections; and it is not rare for her to concentrate herself on the interior of the body, and produce engorgements, suppurations, in a word, new productions, as if to indemnify herself for those which we have removed from her grasp. This is a thing I have often seen after the sudden retrocession of a cutaneous eruption, an ophthalmia, and even after surgical operations. Thus, the amputation of the mammary gland is followed by scirrhus of the lungs; that of the testicle by a production of the same nature in the lower belly, &c. I trust these facts will convince surgeons of the necessity there is of first destroying the scrofulous diathesis before they remove its local symptoms by the bistoury, and of establishing issues after the operation, as if to indemnify nature."—Page 96.

To the practitioners of the south and west, this treatise will be of inestimable value in aiding them to arrest the fatal march of scrofula among the coloured population of that section of our country. Self interest and humanity will here go hand in hand, and be in their turn aided by the laudable ambition to triumph over disease. We deem it unnecessary in this place to exhibit the work in more minute detail—as this task has been already accomplished in the review of it published in the fifth volume of this Journal. The present translation is in style and phraseology perspicuous and easy, being equally clear from ornateness on one side and triviality on the other.

Quarterly Summary

OF

Medical and Surgical Intelligence.

We have reason to believe that misapprehension extensively exists with regard to the nature and mode of preparation of our Quarterly Summary. We wish therefore, to have the manner in which it is brought together distinctly understood.

Much matter of an analogous kind has, at various times and in different periodicals, been simply *republished;* being composed of tracts from foreign works of the same class, which were marked and sent to the printer to be copied. To this easier and cheaper mode there lay, in the opinions of the founders of the present journal, very serious objections. The abstracts thus used, being made for a foreign market, were not such as would have been best adapted to American perusal. They were drawn up in such a manner as was supposed best suited to the readers for whom they were designed, and not to ours. They were always abridged and partial, subject to the prejudice of the compilers, and frequently liable to be misunderstood, from their allusions to occurrences of a local character, and not known in this country. Add to this circumstance, that as all these extracts must of necessity be in the *English language*, those which related to observations and discoveries made on the continent of Europe, only reached us drained through the medium of the journalists of a particular nation.

Instead, therefore, of this "labour of the shears," the following method was adopted, and has been, in an unvarying manner, acted upon to the present moment. The foreign journals are distributed among a number of individuals, believed to be well prepared in the several departments in which the subjects are classed; and the writers are instructed to prepare written abstracts, so as to present the greatest possible amount of useful and correct information within a given space. From the multiplicity of sources, and an anxiety to furnish as late information as can be given without a sacrifice of usefulness, the papers are prepared with considerable haste; but extreme care has been taken, not only to condense as much as possible, but to preserve the author's true meaning. In doing this, it is frequently found expedient to employ a share of his own words; as otherwise we are liable to the charge of misrepresentation. Yet at the same time, it is necessary to brevity, that the whole should be subjected afresh to the labour of composition; and wherever it has been judged expedient to make an entire extract, we believe, with an accidental exception or two, it has been marked with inverted commas. Elaborate and complete digests are thus periodically made of many articles of considerable length. The French, Italian, and German Journals are inspected by individuals possessing a competent acquaintance with the corresponding languages; and the abstracts are made directly from them. The reader, in addition to other advantages, is thus spared a great

and fertile source of error in the distaste and dislike occasionally evinced between different nations, even in the profession of medicine.

It has been the object of this periodical compilation, to supply our subscribers with an abstract of the current medicine, more complete than they could get from any other source, and without laying them under the necessity of subscribing to numerous publications, or reading through the embarrassment of foreign languages. With what success these efforts have been crowned, it is for our readers to say. We are highly flattered with finding that our example, in this respect, has been copied by several works of the highest standing both in Europe and America, and in particular by that great and imposing production, the Journal des Progres des Sciences et Institutions Medicales. Our readers may at any rate be assured, that however humble the character of the Quarterly Summary, and whatever may be its success, it is that department of the work upon which most labour has been bestowed.—[Ed.]

I. ANATOMY.

1. *Preservation of Subjects for Dissection.*—In a letter from Sir G. S. M'Kenzie, Bart. to Dr Christison, which is published in the Edinburgh Medical and Surgical Journal of July 1828, that gentleman states that he had been desirous of obtaining an agent which had a strong attraction for moisture, but no corrosive qualities. On trying the effect of molasses on muscle, he found that a mass of flesh immersed in it was in a few days deprived of all its juices, and that the fibres became rigid. It was reduced to a state resembling pemmican. He says that after he had made many trials, a friend of his immersed a hand and part of an arm which he had amputated, in thick molasses; and after a few weeks it was converted into most perfect mummy, surpassing any Egyptian specimen he had ever seen.

He has specimens which he regards as "proofs that bodies after being immersed in molasses for a sufficient length of time, washed and exposed to gentle heat, and then wrapped in oil cloth or oiled silk, may remain unchanged for any length of time." The power of molasses is such, he feels assured, that disembowelling is not necessary—that injection by the œsophagus and bowels and trachea, together with the introduction of a portion into the abdominal and thoracic cavities, would probably preserve every part. The molasses should be thick and as free from water as possible.

For preserving subjects that are to be carried to a great distance, or for keeping them in the dissecting room when not wanted for immediate use, he gives the following directions.

"The subject being placed in a cask, let it be filled with a liquor, made of one measure of molasses, one of salt, and fifteen or sixteen of water. The head of the cask may be put on, having two small holes in it, and after twenty-four hours, the liquor may be poured in by one of the holes, while any air in the cask escapes by the other, and then both may be plugged up, and the cask forwarded to its destination.

"I have little doubt, if the cask be perfectly tight, of subjects coming in a good state from the West Indies or the coast of Africa."

In a note to Sir G. S. M'Kenzie's letter, Dr Christison says he has seen the hand, above alluded to, in Dr Combe's possession; and although it had been prepared ten months, and no particular pains taken to exclude the causes which promote putrefaction, it is not in the slightest degree decayed.

2. *Preservation of Anatomical Preparations.*—Mr Gascoin gives the following directions for preserving specimens of morbid anatomy. "Having removed the diseased part from the body, it should be as little handled or dissected as possible, especially when the effects of inflammation, congestion, &c. are to be preserved, as the blood may be pressed from, or distributed in the minute

vessels. Let the blood which may have escaped from cut vessels be gently washed off from the surface with a solution of the *muriate of ammonia*, or be absorbed by a soft sponge, lightly applied. The part should then be wrapped with care in old linen, and be so immersed in *one part of a saturated solution of muriate of ammonia and two of rectified spirits of wine.* After two or three days the linen may be removed and the part restored to the fluid.

"Should the preparation be large, or from the nature of the disease contain a large quantity of aqueous fluid, then an additional portion of the muriate of ammonia in powder should be added to meet the excess of aqueous menstruum. The time necessary for maceration will mainly depend upon the size of the part to be preserved; but generally from ten to fifteen days will be found to be sufficient, although nothing can be lost from an extension of that time.

"Being taken from the macerating fluid, it should be again washed in a solution of muriate of ammonia, then dissected as much as requisite, and be 'put up' at once, in equal quantities of a saturated solution of the above salt in distilled water and rectified spirits of wine. I should observe that in these preparations the part is somewhat corrugated, which is not the case if *one-third* of the saline solution be used with two of the spirit; yet in the former quantities I have some reason to think the appearances of disease may be more securely preserved."—*Med. Gaz.—London Med. and Surg. Journal, Jan.* 1829.

3. *Connection between Monstrosity and the Nervous System.*—In the 3d volume of TIEDEMANN's Journal he investigates the above subject, and is decidedly of the opinion that there is a direct relation between the constitution of the nervous system and the construction of the other parts of the body. When a nerve is absent, the corresponding organ is also absent, and the nervous system being imperfect, the part under its influence is imperfectly developed. In all monsters with excess of formation the distributions of the nervous system correspond. He investigates the point whether the irregularities of the nervous system are the cause or effect of those of the organs, and concludes that the nervous system, as the first existing apparatus, regulates the formation and development of the embryo, and determines the peculiar form and disposition of the rest of the organs.—*Edinburgh Med. and Surg. Journal, Jan.* 1829.

II. PHYSIOLOGY.

4. *The Capillary Circulation.*—In the absence of other physiological news we copy verbatim the following very interesting article from the Edinburgh Medical and Surgical Journal for July 1828.

"In the work now quoted (Commentationes Soc. Physico-Medicæ Mosquensis II. ii. 327) which we believe is hardly known in this country, are contained some very curious experiments and speculations on the force which moves the blood in the capillary vessels. As the subject is one of much attraction at present, when so many theories, all said to be founded on the basis of facts, have been in vain conceived with the expectation of accounting for the phenomena, we are sure the reader will not regret the opportunity of becoming acquainted with another hypothesis, which certainly has the merit of novelty to recommend it, and which is also deduced, whether legitimately or not we shall not inquire, from facts of extreme interest, of unquestionable accuracy, and so far as we remember, perfectly new. We are astonished that they have been before the public since 1821, without having been noticed in any scientific journal of Britain, France, or Germany, which we have had an opportunity of consulting.

"We shall commence with an account of his experiments, the merit of which ought to be considered quite apart from the use which the discoverer has made of them; and as the work which contains them is very scarce in this country, we

shall relate the leading experiments nearly word for word. The original, it should be remarked, is in Latin.

"The author, FERDINAND FREDERICK REUSS, in a preliminary essay on what he calls the *hydragogue* or aquapellent property of electricity, has related several experiments to prove the existence of a new property in galvanism, the power, namely, of impelling water from the positive to the negative pole. He appears to have been led accidentally to study the phenomena in question, in consequence of observing the movements in the water, of the particles of oxide of copper formed when the positive pole of his battery was made of that metal.

"After describing the particulars of this motion he proceeds to more satisfactory experiments. This impulse, says he, towards the negative pole, is better seen when the water is contained between two parallel glass plates three or four lines apart from one another, and when the wires are immersed at right angles to the water, being made of gold or platinum, and covered with glass tubes, sealed at their extremities to the wires. It is convenient also to keep the wires steady, yet moveable, by thrusting them through two pieces of cork which rest on the edge of the vessel. If into the apparatus so prepared, common water be poured, and the battery charged, the calcareous matter which is separated by the decomposition of the salts of lime in the water, and causes turbidity, will not only show by its non movements, a continual flow of the water from the positive pole in lines curved downwards, and then bending upwards to the negative pole, but will also delineate the course of the current by particles adhering to the surface of the glass plates.

"But the repulsive power of the positive, and attracting power of the negative pole, is seen much more satisfactorily, if the water in contact with each pole is separated by a stratum of porous matter, so that the particles which are impelled from one towards the other pole, may pass through the interstices, while the cohesion of the interposed body may prevent other particles from passing in the opposite direction by their own gravity: which conditions, in fact, are easily fulfilled by taking a tube of the form of the letter U, filling its curve with sand, and its straight, upright limbs with water. The two wires being now immersed in the water in the two limbs, and the galvanic circle consequently completed, the water will be observed slowly to sink in the positive and rise in the negative end of the tube. With a voltaic pile composed of ninety-two silver roubles and as many plates of copper, a tube seven and a half inches long and wires made of platinum, I found that in fifteen or twenty minutes, the water stood ten lines higher than before in the negative, and as much lower than before in the positive end of the tube. On interrupting the galvanic circle the water soon returned to its original level, and on restoring the continuity of the circle, the transfer soon recommenced. Next day, fourteen hours after the experiment began, the positive limb was empty, the negative end was full to overflowing. After observing that it continued thus for four days, I interrupted the galvanic circle again, and the water soon returned to its equilibrium of level.

"A similar but much more wonderful result was obtained when the interposed substance consisted of clay. I prepared a quadrangular prism of moist potter's clay, ten inches long and two inches in breadth and thickness. At each end of this prism, and five inches apart from one another, I fixed half an inch deep in the clay, two glass tubes three inches long, an inch in diameter, and open at both ends. I then poured into each tube an inch of water, and covered each of them (loosely, however, so as to allow a passage to the air,) with a cork, through which the wires of the battery were passed down to the middle of the water. The pile consisted this time of seventy-four double plates, such as those used in the last experiment. The following phenomena took place. As soon as the electric circle through the wet clay was completed, which was indicated by the escape of air-bubbles from the water, the clay bottom of the positive tube began to swell and raise the sand, with a thin stratum of which I had covered it, to keep the water from becoming muddy. In the course of half an hour the clay appeared softened to mud, a part of which pierced through the same, and projected upwards like a little hill. By and by, the pyramid discharged from its apex

a muddy liquid, which ran down the sides like lava, and soon formed over the sand a layer of mud three lines in thickness. For half an hour no change was observed in the level of the water in either tube, and the sand or clay remained in the negative tube quite undisturbed. But when three hours had elapsed, the level of the water in the negative tube had risen one line; in twelve hours it had risen to two lines and a half; and in the mean time, the whole water of the positive tube had entered the clay and the surface of the mud was about two lines lower than the *original situation* of the water.

"The following night the mud in the positive tube had sunk so far that the wire was not immersed in it; consequently the electric circle was interrupted. Nevertheless I found the level of the water in the negative tube a quarter of a line higher than before, and the clay in the positive tube was firm on its surface. The positive wire being then depressed so as to restore the continuity of the galvanic circle, the clay of that side gradually became firmer and more dry, while the water rose in the negative tube. At length in two days, the latter had attained its highest level, namely, three and a half lines above its original surface, while the clay in the positive tube had become so dry as to crack. In two days more the cracks were larger, but the level of the water in the negative tube was not higher, probably because any further increase it might have received was compensated for by evaporation. That no more than one-third of the water which disappeared from the positive appeared in the negative tube, is to be explained partly by its having evaporated, partly by its having been diffused and retained in passing through the clay between the tubes.

"In addition, therefore, to the properties already known to be possessed by the electric current, such as its power of effecting chemical combination and decomposition, of imparting magnetic properties to bodies, of exciting the muscles to contraction, it is also endowed with the power of impelling fluids in a direction from positively to negatively electrified bodies. This power Mr Reuss calls the *vis electricitatis hydragoga*. He resorts to it freely for explaining some terrestrial phenomena, such, for example, as the flow of springs from rocks, too high for water to reach by pressure from another source. But, in particular, he has applied it to explain the movement of the blood through the capillary vessels of the circulating system of animals. We believe it is unnecessary to spend any arguments here, in showing that all the theories yet devised for that purpose, have completely failed. The action of the heart is completely inadequate to maintain the capillary circulation, as is shown very satisfactorily by our author, Mr Reuss, as well as by former physiologists.

"Mr Reuss's theory of course is, that the arterial system is in a state of positive, and the venous system in a state of negative electricity; and if he could establish this fact by observation and experiment, and not by hypothesis merely, on which its existence at present depends, there could be no difficulty in allowing that he had pointed out by far the most probable cause, and at all events *one* powerful cause of the capillary movements of the blood. As it stands, it appears to us peculiarly interesting as adding, to the facts and arguments formerly advanced by Wilson Philip, Dutrochet, Prevost, Dumas, and others, a new and important fact in support of the analogy, if not identity, of the nervous with the galvanic power."

5. *Torpidity of the Common Tortoise.*—The temperature of these animals while in the torpid state in winter is diminished; their blood circulates slower, their respiration is less frequent, and sometimes entirely suspended; there is also a suspension of the action of their stomachs and digestive organs, with diminished irritability and sensibility of the muscular and nervous powers. Heat and air are the only agencies which rouse them from the lethargy. The article from which we have derived the above, contains notices of several land tortoises that attained to very great age; one of them being known to have lived 220 years; another at the episcopal palace at Folham, procured by Bishop Laud in 1628, died in 1753, aged of course one hundred and twenty-five years.—*Lond. Med. and Surg. Journ.*

III. PATHOLOGY.

[We are indebted to our friend Dr WALTON for the two following cases, the histories of which as drawn up by him cannot fail to interest and instruct our readers in the same proportion in which they have been gratifying to ourselves.—ED.]

6. *Abscess of the Liver communicating with the Duodenum; Perforation of the Stomach near the Pylorus.*—Edith Copeland, a coloured woman, aged about forty-five years, some time during the ninth month (September), 1827, first became sensible of pain in the right hypochondriac region, and soon afterwards she perceived a tumour forming in that situation. This enlargement gradually extended itself towards the left side, and its growth seemed constant during her life; great emaciation followed, and increased with the progress of the disease. Loss of appetite, constipation of the bowels, alternating with diarrhœa, restlessness, hectic fever, and night sweats, were the symptoms which were most frequently attendant. Towards the close of her disease she suffered very severe pain, and her emaciation became extreme.

As I did not see this patient until three months after the commencement of her disease, when it had made considerable advancement, there existed but little hope from the power of medicine. Blisters over the tumour were however applied; aperient pills were occasionally exhibited, and as seemed necessary, her sinking strength was in some measure upheld by tonic medicines, and a nourishing diet. At no period of my attendance would the general state of her system, which was feeble and exhausted, admit of the employment of active measures for the removal of her disease. At one time I tried the effect of gentle purging, with small doses of calomel; but so much diarrhœa, and consequent prostration followed, that I was obliged to prescribe anodyne injections, and a nourishing regimen, in order to counteract its injurious tendency. After an aggravation of every symptom of her complaint, her death occurred, about the close of the second month (February), 1828.

Dr ASHMEAD assisted in making the *post-mortem* examination. The lungs were found healthy in structure, but pale in colour, which was attributable to a general deficiency of blood in the vascular system. On opening the cavity of the abdomen, a confused mass of disorganized structure appeared. The omentum majus seemed, as it were, entangled with the convolutions of the intestines, and was adherent to them, at almost every part of its surface. The peritoneum bore evident marks of previous inflammation, and the abdomen contained about one pint of a yellowish fluid, in which particles of a coagulated substance were floating. The liver was much increased in its transverse dimension, and covered with an adventitious membrane of coagulated lymph, the production of that portion of the peritoneum investing its surface. Excepting the lobulus quadratus or anonymus, the structure of this viscus was pretty healthy. The lobulus quadratus projected far below the inferior edge of the liver, and appeared greatly enlarged. It was united to the duodenum, about two inches below the pylorus, and there existed in the intestine, at the place of attachment, an opening three inches in length. In this manner a complete communication was formed between the liver and the bowel, the result of inflammation, terminating in adhesion and ulceration. The parietes of the abscess were rough, dark-coloured, and gangrenous, and its contents were composed of a soft substance, much resembling the medullary part of the cerebrum. Its colour was that of a light pink, and its smell extremely fetid.

The stomach, duodenum, pancreas, cœliac artery, and much of the adjoining structure, presented such a confused and disorganised mass, that no regular and methodical examination of them separately could be made. The mucous coat of the stomach however appeared nearly white, and a complete perforation of its coats was discovered near the pyloric orifice, in diameter about the half of an inch. When incisions were made into the liver, healthy bile appeared, except-

ing from the diseased lobe. The gall bladder was natural, and contained a small quantity of bright yellow bile.

The peritoneum was generally in a diseased condition and exhibited marks of extensive inflammation; in many places it was covered with a layer of coagulated lymph; and enlarged blood vessels appeared on different portions of its surface.

7. *Tuberculation of the Lungs, Chronic Pleuritis, and Morbid Condition of the Stomach, in which the greater part of its mucous coat was removed.*—H. CLEVER, a coloured girl, aged five years, was attacked, about Christmas 1827, with rigors, severe cough, and vomiting. The cough continued, and from the account of the symptoms connected with it, as given by the parent, the case seems to have been one of pertussis. I did not see her until the 11th of the first month (January), 1828. The symptoms which then presented were, fever, irritated pulse, paroxysms of hectic, oppression and difficulty of breathing, hacking cough, performed by several quick expirations, followed by a discharge from the trachea and bronchiæ of a viscid mucus; and œdema of the lower extremities. From a collective view of her symptoms and appearance, she must have been affected with thoracic disease of a chronic character, for a considerable time anterior to the period noted in the commencement of this account. As may be inferred by a reference to the symptoms of this case, the prognosis was very unfavourable.

The treatment consisted of blisters applied in succession to the chest, the brown mixture as an expectorant, mucilaginous drinks, the warm bath, diuretics, and a restricted regimen.

The balsam copaiba in small doses, and repeated two or three times daily, was exhibited; it promoted the urinary discharge, and its effects in palliating the disease seemed for some time encouraging. When diarrhœa occurred in the course of the disease, small doses of calomel and opium were effectual in removing it. At one time I endeavoured to excite vomiting in order to relieve the oppressed state of the lungs; and although very large doses of antimonial wine were given, yet they passed off by the bowels without effecting the object in view. This circumstance may perhaps be explained by the concentration of excitability in the viscera and lining membrane of the chest, and by a reference to the diseased condition of the mucous tunic of the stomach, as subsequent examination disclosed. When, in cases of thoracic disease, this resistance to the proper operation of emetics is discovered, prudence would require that they should not be urged to any undue extent by a frequent repetition, or a greater increase of the dose.

Her death, which occurred about the close of the second month (February), 1828, was preceded by serous effusion into the cavity of the chest, short and difficult respiration, great exhaustion of strength, feeble pulse, &c.

In making the *post-mortem* examination I was assisted by my friend Dr ASHMEAD. The thorax being opened, the lung of the right side was found firmly adhering to the parietes of this cavity. A layer of coagulated lymph, in colour yellow, in thickness one quarter of an inch, firm, and consolidated, was adherent to nearly the whole of the exterior surface of the right lung. The latter was a mass of diseased structure: it was solidified and filled with white granular tubercles. Some bronchial cells remained, and these, with the bronchial tubes, were filled with bloody mucus. The left lung was less diseased, nor was it, like the right, adherent to the walls of the chest; small white granular tubercles were however found throughout its substance. We observed a considerable quantity of natural structure in it, which appeared to have been the chief of what escaped the ravages of disease, to serve the office of decarbonizing the blood. The lining membrane of the bronchiæ was reddened in patches, indicative of previous inflammation. The stomach was much diseased, and exhibited appearances by no means common. Its mucous coat, or more properly what little remained, was almost perfectly white. It was found only in the form of lines and patches; and about the pyloric orifice, its removal was so

complete, that the muscular laminæ, composed of pale well marked fibres, alone appeared. In those situations where the mucous coat had been absorbed, the stomach was exceedingly thin, and a slight force was sufficient to produce perforation.

The internal structure of the liver was natural, and healthy bile was found. On its convex surface there were a few white substances, from two to five lines in diameter, and on cutting them out they appeared to be formed of a hard matter, resembling cartilage. Evidences of sanguine irritation were seen on different parts of the intestinal mucous membrane. A worm, six inches in length, of the lumbricus species, was observed in the ileon, at a point which bore marks of high inflammation; and the same degree of vascular injection existed in the mucous lining of the bowels, eight or ten inches below. In some situations, near the upper part of the small intestines, there was a peculiar disease of the glands of PEYER and BRUNNER, in which they were enlarged and elevated into ridges, the effect evidently of chronic inflammation.

8. *Softening and Laceration of the Stomach in an Adult.*—In RUST's Mag. für die gesamm. heilk. 27 B. 1. h. 1828, is related the case of J. H., 18 years old, who had been for about 18 months affected with cramp of the stomach, which was most commonly brought on after the ingestion of food of difficult digestion and cold drinks. Eight weeks previous to the death of the patient, there occurred a severe vomiting and purging of dark coloured blood. Dr BARTH now for the first time saw the patient. His appearance was sallow and cachectic; he complained of a pain in the neighbourhood of the large extremity of the stomach, which was increased by pressure, and after eating indigestible food. On the 6th of September 1825, the patient, contrary to the advice of his physician, ate a hearty supper of potatoes, warm garden salad and hard boiled eggs; he now complained of an augmentation of the pain in the stomach; about 8 o'clock in the morning the pain was suddenly greatly increased, and extended over the whole abdomen. The case now had all the symptoms of a severe enteritis; by 6 o'clock, P.M. in spite of every remedy, death occurred. *Sectio cadaveris*, 24 hours after death. The abdomen was tympanitic, and when cut into, there escaped from its cavity a quantity of thin, fetid, purulent matter. The intestines, in their whole extent, presented traces of a recent inflammation, and externally, were covered with coagulable lymph; they adhered in many points to each other and to the peritoneum. The stomach was more minutely examined, and presented all the traces of inflammation as well exteriorly as within. At its larger extremity was discovered a softening, to a considerable extent, of all the coats; these were in a great measure reduced to a whitish jelly, which allowed itself to be torn easily between the fingers. In this softened portion were two ruptures; the smallest half an inch, and the largest one and a half inches long; the torn edges were smooth and even; the slightest touch of the finger produced other ruptures. In the stomach, as well as in the cavity of the abdomen, were found the undigested remains of the food which had been taken the evening before. In this case, it is asked, did the rupture of the softened coats of the stomach take place in the morning of the 7th, during the violent attack of cramp of that organ, the escape of its contents into the abdomen giving rise suddenly to the violent enteritis?

9. *Eruption of Measles confined to one half of the Body.*—A child three years of age had, for some time after its birth, been affected with a constant sweating of one half the body, which strange affection, however, had, after the use of general baths, disappeared for nearly two years; when during an epidemic occurrence of the measles, the child was attacked with them, but only on that side of the body which had been the seat of the previous perspiration. The patient passed safely through the attack.—*Rust's Mag. f. d. gesammte heilk.* 1828.

10. *Case of Hydrophobia from Cold.*—In RUST's Mag. vol. 27, No. 1, 1828, Dr BARTH relates the case of M. W. 40 years old, subject to hæmorrhoids and

hypochondriasis; he was affected with a profuse sweating of the feet, and according to his own statement, had already often suffered from cramps of the chest. On the 8th of Oct. 1825, in the afternoon, he bathed his feet, for the purpose of removing a very painful corn, during which the feet became very cold. The doctor was called to the patient at 7 o'clock in the evening, and found him labouring under violent general spasms of a clonic character, which had commenced about an hour before. The skin of the whole body was icy cold to the touch; the pulse small and convulsive (krampfhaft) but natural in respect to its frequency. The severe spasms, similar to those of opisthotonos, occurred every 8 or 10 minutes, and continued on about one minute. The doctor directed the feet to be immersed in warm water, and the patient to take some warm elder tea; but the moment the patient attempted to drink of the tea, he was suddenly seized with a most violent spasm of the throat and pharynx, and the fluid was immediately thrown out from the mouth; the eyes were convulsively distorted, the neck became frightfully distended and the head thrown backwards, the chest and abdomen were raised from the bed, while the hands and feet moved convulsively, and a hoarse sound like that made by a person suffocating, was uttered by the patient. The same symptoms were excited whenever any fluid was approached to the mouth. Sinapisms were applied to the chest and calves of the legs, an antispasmodic injection administered, and a pediluvium, rendered more irritating by the addition of salt and ashes, was directed. By these means the symptoms became less violent. At 3 o'clock in the morning, the patient could without any difficulty swallow fluids, a profuse sweat having broken out over the whole body, and especially upon the feet.

11. *Cholera Infantum.*—A very interesting article, by Dr HORNER, of the University of Pennsylvania, is contained in the American Journal of the Medical Sciences for February of the present year, tending to prove that cholera infantum consists rather in an inflammation of the innumerable mucous glands or follicles, which extend throughout the alimentary canal, than in a common vascular or erythemoid inflammation of the intestinal mucous membrane. The post mortem appearances of several cases are related.

Case 1.—The patient, two years of age, had laboured under the usual symptoms of cholera infantum for three weeks. On examining the abdominal cavity, eighteen hours after death, the peritoneal surface of the viscera was found to be healthy; the liver of a light yellow colour; gall-bladder distended with bile; spleen healthy;—the mucous membrane of the stomach was "of a sienna colour, and of a consistency which permitted it to be scraped off very easily with the finger nail." In the small intestines this membrane was generally of the same colour, "but interspersed at distant intervals with patches of injected blood-vessels, but no extravasation. The clusters of muciparous glands, or follicles, were very distinct to the naked eye, and had their orifices also enlarged and tumid. The same condition of the muciparous follicles prevailed in the large intestines, from one end to the other, but they were larger and more tumid, and gave to the mucous coat somewhat the appearance of having been sparingly sprinkled with fine white sand. In both small and large intestines the mucus seemed less consistent than usual. The upper part of the small intestines contained yellow bile, almost pure, excepting some mixture of mucus. In the large intestines the contents were also bilious, but greenish, like the discharges which had prevailed during the disease. Tnere was a small blue spot on the large intestine, the colour somewhat like chronic inflammation."

Case 2.—An infant, eighteen weeks old, had laboured under cholera infantum for a fortnight or more; on examination after death, the stomach was found empty and contracted, "its mucous coat of a light sienna colour, almost white, and destitute of blood-vessels, excepting a very few; the rugæ, well marked, laid for the most part in longitudinal rows, and so elevated that they were in contact. The mucous coat was also so soft that it could be scraped away easily, in the form of a pulp, with the finger nail." The small intestines were likewise of a light sienna colour on their mucous coat, and contained only a little mucus, here

and there greenish. The large intestines, of the same colour as the small, contained no fæces; but the inferior two-thirds of the colon were occupied, so as to form a slight distention, with pure, well elaborated, cream-coloured pus, of a proper consistency, and having only a very faint odour. "The muciparous glands of the colon were all enlarged, so as to present small grains of white sand sprinkled over the mucous membrane, and about the size of millet seed; there was in each a little depression, of a darker colour than the rest of the gland, which, from its position at the apex, was taken for the orifice of the gland. The muciparous glands of the small intestines were also tumid and irritated, but could not be so well distinguished at the time of examination as they were subsequently by maceration. In a few of these follicles ulceration had begun to show itself in both intestines, small and great, but only to an inconsiderable extent." Colour of the liver lighter than usual, and somewhat variegated by a yellowish ground being interspersed with its natural brown, otherwise healthy; gall-bladder distended with inspissated green bile; other viscera of the abdomen healthy. Dr H. is unable to say, positively, whether the consistency of the mucous coat of the stomach, observed in the above cases, was the effect of disease, or the normal state of the membrane at the age of the patients.

Case 3.—The subjects of this and of the former case were twins; continuance of the disease the same in both. Mucous coat of the stomach natural; duodenum contained healthy bile, and the other small intestines abounded in fœcal matter, of a light yellow colour; the same was also found in the cœcum, but in no other portion of the large intestines. The muciparous glands of the cœcum were very obviously enlarged, as also those of the sigmoid flexure of the colon, and of the rectum. A mucous inflammation was discovered on the lower portion of the ilium, and there was a considerable injection of the rectum, apparently of an inflammatory kind. Liver healthy.

The *4th case* is quoted from M. Billard. The patient, ten months old, had laboured under all the symptoms peculiar to cholera infantum, and on examining the alimentary canal after death, throughout its whole extent, appearances were discovered similar to those described in the two first cases related above, as indicating follicular inflammation.

The next case examined by Dr H., in which the ordinary symptoms of cholera infantum do not appear to have been present, is thus related:—"Miss P., aged two years, for about three weeks had been disposed to constipation, requiring the use of cathartics frequently. She was attended by Dr Dewees, who informs us that her stools had been white, with an absence of bile. Eight hours before her death she was seized with convulsions, which lasted to the end of life. *Autopsy*. Exterior aspect, nothing unusual; brain and membranes natural; lungs natural; half an ounce of straw-coloured transparent serum in the right pleura. Abdomen.—Peritoneum healthy; liver hard, and of a yellowish hue; stomach of usual thickness; its mucous coat could be scraped off with the finger nail, and was of a pearl or sienna colour, interspersed every few lines with small specks of blood, of a light pink colour, and not larger than the head of a very small pin; the mucous membrane was also smeared all over with a coat of tenaceous mucus, and, at the left end of the stomach, was of a light gamboge colour, which I attributed to bile dying it. The intestines were distended with flatus, and of a light pearl colour. Nothing pathological could be detected in the small ones, but in the large, all the muciparous follicles, from one end to the other, seemed to be affected. These follicles were converted into small cysts, of the transparency and size of the itch vesicle, and on being punctured with a needle, and pressed, readily gave out their transparent fluid. Their orifices could be seen very readily with the assistance of a lens, and appeared to be closed generally, but some were open, and slightly ulcerated; neither could a distinction of colour be observed between these orifices and the remainder of the gland."

"I have now," observes Dr H., "adduced a sufficiency of evidence to excite an inquiry, and perhaps to lead to the conclusion, that cholera infantum is pathologically a follicular inflammation of the intestinal tube, attended with in-

creased peristaltic motion in most cases, but not in all; and in its extreme stages, existing in various sympathies of the different organs of the body. In its anatomical characters at least, it has a very strong resemblance to the vesicular diseases of the skin, and in its extreme stages it seems to progress from the interior to the exterior of the body, showing itself in the mouth by inflammation of the mucous follicles there, (apthæ) and on the skin by an irritation of the follicular system, the appearance of which has been compared by Dr Dewees to the vesicles which would be produced by an immense number of minute drops of scalding water."

12. *Synovitis.*—The following cases of synovitis terminating fatally, with the post mortem examinations, are contained in the London Medical and Surgical Journal for December 1828.

Case 1.—James Connel, sailor, æt. 56, was admitted into the Glasgow Infirmary December 26, 1827, for a moderate sized hydrocele of the right side, which was treated on the following day by evacuating the fluid with a lancet, and cutting off a minute portion of the tunica vaginalis with scissors. January 12th he was dismissed cured. Three days after he returned; a very small quantity of matter having collected under the integuments at the seat of puncture. The part was laid open and dressed, and by the 27th January the wound had almost cicatrized. On that day he was employed, when lightly dressed, in applying leeches to another patient; and in the evening he had a rigor. On the morning of the 28th he complained of occasional obtuse pain in the calf of the left leg, and in the left knee. In the evening the pain had shifted to the right calf and right knee. On the 29th the pains were felt in both legs alternately, but without constitutional disturbance. In the evening he had another rigor, after which the pain attacked the right shoulder joint. On the 30th the pain was more severe in the right shoulder, but neither there, nor in any of the parts already mentioned, was either swelling or discoloration to be discovered. His pulse was now quick, his tongue brownish, and he complained of oppression at the præcordia. In the evening he had a severe rigor, hiccoughed occasionally, and complained much of pain in the right shoulder, left knee, and left calf, in the last of which there was now considerable tense swelling, but no discoloration. Notwithstanding the free use of purgatives, antimonials, leeches and evaporating lotions from the first appearance of the symptoms, he sank under the disease, and died on the morning of the 31st. On examination after death, the integuments of the calves of the legs, particularly of the left leg, were found distended with brownish serum, and the cellular connections of the muscles of the calf contained a similar fluid. In the left knee joint there were a few drachms of thick pus, but no vascularity or swelling of the lining membrane. Integuments on the inner side of the right shoulder were similarly affected; there was a very small quantity of thick pus in the bursa under the deltoid muscle, and a very small quantity within the joint. Thoracic and abdominal viscera healthy.

Case 2.—J. M'Cormick, æt. 43, porter, was admitted, October 13th, 1827, for retention of urine from chronic enlargement of the prostate gland. With some difficulty a good sized elastic catheter was passed into the bladder; and on the 17th, four days after admission, he had recovered the power of voiding his urine. On that day he complained of pains in both shoulders, for which vinum colchici was prescribed. After two days the pains removed to the left knee and left elbow; they were very severe, and accompanied with swelling in both joints. On the 24th some external redness was perceptible, and on the 27th, fluctuation being distinct near the elbow, a puncture was made, and about an ounce of pus discharged. The affection of the left knee followed the same course. On November 2d, although the patient was evidently sinking, the abscess was opened, and eight ounces of pus evacuated. On the following night he died. The fever in this case was considerable, and, during the last seven days of the disease, was accompanied with delirium, and a deep yellow colour of the whole skin. Leeches, purgatives, opiates, and cataplasms were employed freely with very partial advantage. After death, the left elbow joint was found to contain a large quantity

of thick pus, which communicated with the external opening by a sinus behind the external condyle. The external condyle, within the joint, was denuded of its cartilage, and rough. The head of the radius was similarly affected. The left knee joint was full of pus, and the pus passed upwards to the extent of five inches, betwixt the vastus externus muscle and the femur. There was a false passage connected with the urethra. The prostate gland was about twice the natural size. The viscera of the thorax and abdomen were natural.

13. *Epidemic at Paris.*—During the past year the city of Paris has been visited by an epidemic, the following account of which we copy from the 11th number of the Journal des Progres, &c.: The invasion of the disease was sometimes sudden, and at others preceded by chills, a sense of uneasiness, lassitude, feebleness, pains more or less acute in the limbs, and vomiting. The symptoms the most constant, and at the same time pathognomic, were a pricking and formication in the hands and feet, with heat and swelling of these parts. During the presence of these symptoms the patients were unable to close their hands, and if they put their feet to the ground, it appeared to them as though they were walking upon thorns. Sometimes the sensibility of these parts was extremely augmented; the least touch could not be supported; and painful cramps were felt throughout the limbs. Almost invariably the heat and pain of the extremities were increased at night. Very often, while the feet and hands were thus affected, an enormous swelling of the face and scalp took place, but this symptom was not permanent; the eyes were painful; the eyelids were œdematous, or their edges were red. Sometimes the epidermis of the feet and hands became thickened; detached itself in large patches, and was then renewed. Occasionally spots occurred upon the skin, of a blackish or sooty colour, without elevation or increased heat: this appearance was observed particularly upon the chest and abdomen. Sometimes the hands and feet became covered with phlyctænæ, containing a bluish or reddish serum. This phenomenon was almost invariably followed by an amelioration in all the symptoms. The disease was unaccompanied with fever, and although symptoms of an affection of the digestive organs were frequently observed to be present, as also cephalalgia, yet these appeared to have constituted rather a complication than any part of the disease itself. This peculiar affection was in some instances complicated with inflammation of the organs contained in the different cavities, in others with scrofula, &c. Its duration was occasionally some days, and not unfrequently, from two to three months. Various opinions have been advanced as to its remote and proximate causes. It occurred only among the soldiers and persons of the poorer class. It was remarked that the soldiers affected by it were those especially who lodged in the most humid and worst ventilated apartments of the barracks, and likewise that the poor who inhabited narrow and damp streets, and dwellings excluded from the air and sun, were those most commonly attacked; to which it may be added that the summer had been constantly rainy. But a circumstance which appears to merit particular attention in our inquiries into the causes of this disease, is, that at the time it prevailed, bread was very dear; and the poor of Paris, who live almost entirely upon it, were obliged to purchase that of an inferior quality, which was baked for their use. The soldiers ate also bread of a similar kind. With respect to the immediate cause of the disease, it has been sought for in inflammation of the spinal marrow; it is however certain, that in the few post mortem examinations that have been made, the spinal marrow has not been found diseased, excepting when a paraplegia has been mistaken for the disease described. Others have considered it an inflammation of the cellular tissue, and M. Recamier has suggested that it may be a variety of scurvy. According to the editor of the journal from which this account is taken, the disease is the effect of an inflammation of the arteries or veins; at least he conceives it to present in its symptoms and causes a great analogy to diseases of these vessels. The plans of treatment have been still more various than the opinions as to its nature. By some were employed the remedies usually directed for affections of the spinal marrow; as bleeding, cups, blisters, moxa, strychnine, &c.; others

employed the cinchona in large doses, sulphurous baths, and various purgatives. M. RECAMIER has derived some advantage from the employment of the juice of the sorrel. The means which have had most success, and which appear, when their use has been continued for a sufficient time, to have produced always an amendment in the symptoms of the disease, are bleeding general or topical, general or local baths, emollients, sometimes rendered narcotic, and a change of regimen.

14. *Mania produced by Indigestion.*—This interesting case, reported by M. J. DE SOUSA FERRAS, is copied from the Journ. Univers. des Sciences Medical. for Sept. 1828. A Portuguese woman, forty-two years old, had been invited by some females of her acquaintance to eat cakes and drink liquor; in making the cakes they had introduced into them portions of twisted hair, as a charm. This it appears is a species of witchcraft much employed by the negroes of Brazil. For twenty-four hours after partaking of these cakes the woman experienced only a loss of appetite, but subsequently there occurred nausea, an oppression at the stomach, and at length, a complete derangement of the mind; with watchfulness, and absence of all desire to eat or drink. In this condition, a state of stupor was succeeded by a wild gaiety, and this by raging delirium; under these symptoms she continued two days; M. SOUSA being then called in and informed of what had taken place, directed an emetic; this brought up from the stomach a ball of hair of the size of a chestnut. The delirium ceased immediately, and the only symptom of disease which remained was considerable debility.

15. *Colica Pictonum.*—From a long but very excellent "Memoir upon the Colic produced by Lead," by N P. ANGUETIN, M.D. contained in the October (1828) number of the Journ. General de Medecine, we copy the following general conclusions as to its pathology, which the author conceives to be fairly deduced from the facts and arguments which he has advanced.

"The lead does not act immmediately upon the coats of the intestinal canal; and the symptoms of the lead colic cannot be attributed to an inflammation of the mucous membrane of the intestines."

"To produce the phenomena which constitute the colic from lead, it is necessary that the lead penetrate into our organs by absorption, either from the intestines, the lungs, or from the surface of the body."

"When thus introduced into the system, it acts first upon the nervous system, that is to say, upon the brain, the spinal marrow and the trisplanchnic nerve, which form an inseparable whole."

"This action of the metal upon the nervous system produces in certain cases symptoms of encephalitis, or of myelitis, but most commonly it occasions a spasmodic and painful contraction of the muscles of the intestines and of many other parts of the body."

"If we were to form a scale of all the diseases of the intestinal canal, we would place at the two extremities cholera morbus and the colic from lead: In the one, the secretory functions of the intestinal tube and of its appendices are exalted to the highest degree, while its peristaltic movement is augmented in a similar proportion; in the other, all the secretions are suspended, and the peristaltic motion ceases in consequence of a tetanic condition of the muscular coat."

16. *Pulmonary Tubercles.*—In the October number of the Ephemerides Medicales (1828), is a very interesting analysis of an essay upon tubercles by HENRI CLERMOND LOMBARD of Geneva. According to this author, tubercles are an inorganic secretion, and augment in size by juxta position. He distinguishes them into simple and compound. The first are isolated, and the different molecules of which they are composed are united without any intermediate substance; the second result from the agglomeration of several simple tubercles; these, originally separated, in approaching each other, enclose in their intervals a

portion of the organ in which they are developed, the life of which is destroyed by the tubercle thus formed.

Contrary to the opinion of LAENNEC and LOUIS, M. LOMBARD maintains that what have been termed pulmonary granulations are not tubercles in their commencing state, but a variety of chronic pneumonia, a hypertrophy of the vesicular parietes, as ANDRAL had already described them to be. They may also, M. LOMBARD is convinced, be the result of a hypertrophy of the external cellular coat of the pulmonary vessels.

According to LAENNEC, LOUIS, and others, tubercles become softened from the centre to the circumference: this opinion is combated by the present author; according to him the softening is produced by the action of the surrounding living structure in its attempt to free itself from this morbid secretion, which, as a foreign body, impedes its functions. The molecules of the tubercle are separated from each other and softened by the pus secreted around them; in this state of fluidity they are readily expelled. The softening, therefore, according to M. LOMBARD, takes place from the circumference towards the centre of the tubercle.

What is the seat of tubercles? Are they developed in the cellular tissue which unites the different portions of an organ; or do they form upon the surface of the mucous membranes? BAYLE, BAILLIE, and BLAINVILLE consider the first opinion as demonstrated; LAENNEC and LOUIS think it probable that they may be developed upon mucous surfaces, while, according to CRUVELLIER, this is undoubtedly the case. M. LOMBARD is of opinion, that no facts have as yet occurred to demonstrate the latter supposition; he conceives it very probable that tubercles are developed in the cellular tissue, and that if they have been found in the different canals, or in the cavities of the body, this has been in consequence of erosion or ulceration having permitted them to be removed from the part in which they were originally deposited. That tubercles are not formed, as some have supposed, within the bronchia or air cells of the lungs, would appear to be proved by the observations of GENDRIN, who ascertained by injections and microscopical examinations, that the bronchia were free and permeable, notwithstanding the existence of tubercles in the lungs; it is thus he distinguishes them from the morbid muco-purulent secretion which fills the final air-cells in severe cases of bronchial catarrh, and which many physicians have confounded with tubercles.

With respect to the connection between inflammation and tubercles, whether it is sufficient for their production, or, as some maintain, has no effect whatever upon them; M. LOMBARD, taking the medium between these two extremes, is of opinion that it acts only as their occasional cause.

According to M LOMBARD, the remote causes of tubercles are a hereditary predisposition, the lymphatic temperament, the sanguineo-nervous temperament, a cold and humid state of the atmosphere, inhabiting unhealthy situations, youth, the female sex, and an alteration of the fluids arising from bad food. The occasional are, sanguine or passive congestions, the sur-activity of one or more organs, and the alteration of the fluids.

17. *Perforation of the Stomach without Softening.*—In RUST's Magazine, No. 1, for 1828, is "an account of a disease of the stomach producing a regular perforation of that organ without softening," by Dr C. H. EBERMAIER of Dusseldorf, of which the following is an analysis.

A girl, 22 years old, of a strong constitution, had suffered from no serious disease, menstruated for the first time in her 18th year; one year subsequently her menses were suspended, of the cause of which she was ignorant. The suppression did not produce for some months any inconvenience; then, however, her digestion was disturbed, the stomach could support only the lightest aliments, and soon, even these produced a sense of weight at the epigastrium, acid eructations, and vomiting a few hours after they were taken. These affections were not, however, so severe as to oblige the patient to give up her usual laborious occupations. She had for some time been under medical treatment, with a view

to reestablish her menstrual discharges, and to allay the symptoms of gastric disease: but all means had been without effect, and she had resigned herself to her condition, without any further efforts at relief. In the symptoms under which she laboured there was nothing alarming until the day of her death. She was occupied in gathering fruit in a garden, when suddenly she cried out and fell. She experienced then violent pains in the stomach and abdomen, her face and extremities became pale and cold, there was insatiate thirst and the greatest anxiety; the feebleness increased every moment; involuntary discharges of urine and fæces took place, but no attempt to vomit; the intellectual faculties were unimpaired even to the moment of death, which speedily ensued. On examining the body it was found well proportioned, and exhibiting no appearances of cachexy. The abdomen being opened, a considerable amount of a turbid fluid ran out, but there were no traces of inflammation, adhesion or of exudation. The internal organs of generation were in a state of atrophy and hardened. The stomach was empty and flaccid; it presented on its anterior surface, at the small curvature near the pylorus, a perforation of a round form with an even edge; the perforation penetrated in an oblique direction the parietes of the stomach, which were half an inch thick. This augmented thickness was owing to a morbid alteration at the exterior of the stomach, consisting in a hard, fibrous, and lobulated body, which covered the greater part of the organ, and adhered to its peritoneal coat by its centre. In the midst of this body the perforation was situated, having a diameter of about seven or eight lines. The mucous coat was perfectly healthy even in the neighbourhood of the perforation.

Dr E. cites several instances of similar perforations from various recent authors. From all the facts he has been able to collect he establishes the following corollaries.

1. In all the analogous cases the details of which are known, the disease has followed a course decidedly chronic and latent: it has always in its development occupied many years.

2. During life nothing has appeared to indicate the serious character of the disease; nor from which could be anticipated the fatal issue which occurred so suddenly.

3. The remote cause has been ordinarily the suppression of some secretory action, which has a close connexion with the digestive apparatus. The symptoms never presented those complete intermissions remarked in purely nervous cardialgia.

4. Notwithstanding the long duration of the disease no appearances of cachexy were developed; nutrition was perfectly performed, although vomiting frequently occurred. Very rarely emaciation to any extent was present.

5. In no case were there any traces of inflammation, suppuration, ulceration, or erosion, &c. The parietes of the stomach were healthy excepting in the immediate vicinity of the perforation. They were pale, and deprived of blood: rarely did there exist any patches of red or traces of congestion.

6. The perforation, which occurred always at the pyloric extremity, presented invariably an appearance as though a portion of the stomach had been cut out; it was of some extent, round and without softening of its edge, which was thick and hard, but not tuberculous, and of a cartilaginous appearance. The induration was of small extent, and insensibly lost itself in the healthy tissue. According to Dr E. these perforations are not produced in consequence of a violent spasm of the stomach, as supposed by Desgranges, nor by a cancerous softening or ulceration, nor by chronic inflammation and ordinary suppuration, nor finally, by a softening with thinning of the coats of the stomach. In the perforation under consideration, the destruction of the coats of the organ does not commence at the mucous membrane, but it commences at the serous first, by induration. The mucous and muscular coats remain healthy even in the vicinity of the perforation.

13. *Transformation of the Tissue of the Heart into a Mass of Fat.*—A

young girl, whose father was affected with constitutional syphilis, passed her youth without any serious disease; but in her nineteenth year, a scrofulous tumefaction of the upper lip and glands of the neck, of considerable extent, presented itself; subsequently, she was attacked with symptoms of a gouty and rheumatic character. Her sleep was agitated and attended by dreams; the least motion occasioned her to be greatly fatigued; the left side of the thorax was the seat of a pricking sensation; she had a cough frequently accompanied with bloody expectoration, and the debility of the patient was such as many times to cause fainting. The pulse although frequent was always regular; decubitus upon the side occasioned a peculiar uneasiness. Frequently a burning sensation was experienced internally at the same time that the surface felt cold. At a later period the cheeks and fingers of the patient were of a bluish cast; the pulsations of the heart were so weak that they could not be felt through the parietes of the thorax; menstruation was suppressed; cold sweats now occurred, with coma, and at the end of the tenth month death took place. On opening the body the lungs were found adhering in many points to the pleura costalis and pericardium. On the internal surface of the latter there existed solid filaments of a yellowish white colour, about two to three lines in length, and placed one over the other; some of these passed to the heart, the external surface of which was also beset with similar filaments, which originated in a fatty mass of a grayish yellow colour, and which composed two-thirds of the heart. The other organs were healthy, with the exception of the spleen, which was somewhat enlarged. This case is related by Dr Simions of Heppenheim, in the *Heidelberg. Klinisch. Annal. for* 1827.

19. *Case of Coryza with False Membranes formed upon the Schneiderian Surfaces.*—L. L. aged three and a half years, for some time a patient of the Hospital for Infants, in consequence of rachitis, on the 31st of March 1819 was attacked with loss of appetite, vomiting, cough, sneezing and fever. Between the 1st and 2d of April, an eruption of measles took place, with pain of the throat, frequent and dry cough, an accelerated pulse, heat of the skin, thirst, a moist and white tongue. On the 5th of the month, the respiration was observed to be impeded, and on the next day the face was greatly swollen, the nose red and scurfy, there was great difficulty of breathing, the voice was extinct, cough dry and frequent, the chest was sonorous, the bowels constipated. Four leeches applied to the throat, a blister at the back of the neck, an oleaginous julep was directed and an injection. The patient died at 10 o'clock. *Autopsis.* Brain natural; the cerebral sinus contained a great amount of blood. The mucous membrane of the nasal cavities was very much injected, and covered with mucus and with shreds of a membranous appearance. The pharynx was of a bright red, without any traces of a false membrane; the larynx and trachea presented no evidence of disease. The inferior lobe of the right lung hardened and red, did not entirely sink in water; the other lobes simply injected; the bronchial glands of this side, large and inflamed. The left lung was engorged with blood, but crepitated and did not sink in water. A whitish tuberculous mass was found situated beneath the pleura, and extending to about the depth of a line into the substance of the lung. Stomach healthy, distended with gas; a few red patches were observed in different parts of the small intestines; two-thirds of the colon were in a state of contraction, its iliac portion was dilated, in the remainder of the large intestines, and in the other viscera of the abdomen there was nothing remarkable; upon the skin there was no trace of the eruption. The foregoing is related by Dr Guibert in the *Journ. Universel, Sept.* 1828. In concluding the case Dr G. remarks, that the very intense inflammation of the mucous membrane of the nose which occurred in it is the more remarkable, as it must be regarded as one of the principal causes of death, the partial pneumonia of the right lung being in effect of too little extent to have occasioned so rapidly a fatal termination.

IV. THERAPEUTICS, MATERIA MEDICA, AND THE PRACTICE OF MEDICINE.

20. *Accidental Cure of an Extensive Inflammation of the Tongue.*—This case is copied in the Journal of HUFELAND and OSANN (June 1828) from Die Vierteljährigen Sanitätsberichten. An individual, 40 years old, in November 1827, became suddenly affected with a prodigious swelling of the tongue, which interfered so much with respiration as nearly to occasion suffocation. A messenger was sent to the nearest physician, who being engaged, directed that for the present, frictions should be freely made upon the fore part of the throat and under the chin, with a mixture of the liniment. ammoniat. camph. and ung. hydrar. cinereum, āā. six drachms, and that the tongue as it protruded beyond the mouth, should be exposed frequently to the vapour arising from a decoction of wheat bran in water; promising to see the patient as soon as possible. The messenger when he returned found the patient in the utmost agony, and on the point of suffocating: he hastened, therefore, to prepare the decoction, to which, forgetting the directions of the physician, he added the liniment also. The ammoniacal fumes copiously given out nearly stifled the poor sufferer; he had, however, scarcely continued the application of the vapour fifteen minutes, before a copious discharge of mucus covered the tongue, which, until then, had been dry and parched; the inflammation and swelling were reduced, and, before the expiration of an hour, the patient was so far out of danger that a few doses of the infus. sennæ. compos. directed by the physician, who soon after arrived, completed the cure.

21. *Cod Oil in Scrofulous Ulcers.*—In the Jour. der Practisch. Heilk., June 1828, it is stated that Dr GUMPERT had found the cod oil very efficacious in a case of scrofulous ulceration of the skin with complete tabes: after from two to three spoonfuls of the oil had been used, the ulceration gradually assumed a better appearance; the body of the patient increased in strength and volume, and in three months a cure was effected.

22. *Acupuncturation in Rheumatism.*—The following interesting cases, showing the striking effects of acupuncturation in the removal of rheumatic pains, are related by Dr Jos. BERNSTEIN of Warsaw, in HUFELAND and OSANN's Journal der Practischen Heilk., August, 1828. From the benefit we have ourselves experienced from this operation, particularly in the disease referred to, we are persuaded too little attention has been paid to it in this country.

Case 1. N., a man 54 years old, of a sound constitution, from exposure to cold during the winter, became affected with a violent rheumatic pain of the upper part of the arm. A variety of remedies were employed without effecting any permanent removal of the disease. Six months had elapsed since the commencement of the attack, when Dr B. was called in. The affected shoulder was neither red nor swollen—the patient could move the arm easily forward and without pain; but by the motion of the arm either upwards or backwards the pain was greatly increased. The pain was not augmented by pressure. The health of the patient was otherwise tolerably good. A large blister was directed to the arm in the neighbourhood of the deltoid muscle, at which place the pain was the most severe during the motions of the arm; the blister was kept open for four weeks, at the termination of which period an evident diminution of the disease was experienced; circumstances relating to the patient's occupation now rendered it necessary that the blistered surface should be allowed to heal, although the disease was not yet entirely removed. The patient continued six weeks without medicine of any kind: the motions of the arm upwards and backwards were still painful. Acupuncturation was then resorted to. On the first day five needles were inserted near the insertion of the deltoides, three 1 1-2 inches in a perpendicular direction, and two, after being passed to the same depth perpendicularly, were then directed obliquely in the course of the muscles of the

arm. After 15 minutes the needles were removed in the same direction in which they were inserted. The introduction of the needles caused little pain, but their extraction somewhat more. The patient was now directed to move his arm; and he was of opinion that the disease was already evidently diminished. On the second day less pain was felt at the spot where the needles were inserted, but still some was experienced when he attempted to raise his arm upwards. Five needles were again inserted and left in twenty minutes. The pain was evidently diminished. Third day, the pain was felt lower down, and the needles were here inserted—pain diminished. In this manner constantly for two weeks was the operation repeated on different parts of the arm at which the pain was experienced, and finally the disease was entirely removed. "Seven months have now elapsed," says Dr B., "and notwithstanding this individual has been exposed to cold and dampness there has been no return of the pain."

Case 2. A. L., 27 years old, of a sound, robust constitution, contracted by exposure to cold a rheumatism of the right lower extremity, extending from the hip joint and glutei muscles to the calf of the leg. Its removal had been attempted by diaphoretics internally, and frictions with the volatile liniment to the seat of the disease: by this treatment the pains were increased rather than diminished. Dr B. saw the patient about six weeks from the commencement of the attack: the pulse was full, not accelerated, but very strong—venesection to 12 oz. was directed, to be followed by 20 leeches to the affected parts. By this the pain in the thigh and neighbourhood of the hip joint was very considerably diminished, but not entirely removed—the patient also complained of a weakness of the foot, preventing him from treading upon it with firmness. He was now placed upon a proper diet and regimen, with no other medicine than was necessary to preserve an open condition of his bowels; after several days a pain was experienced extending more into the hollow of the hip—the patient could not walk without pain—he could, however, tread upon the sole of the foot, and stand firmly on both legs, but could not turn the foot on the affected side, in all directions, without some pain. No flattening of the buttock on the side diseased. A blister was directed, but objected to by the patient—acupuncturation was then proposed, and agreed to: 10 needles were inserted, near the hip joint, in a perpendicular direction, and allowed to remain in 15 minutes; immediately upon their extraction a diminution of the pain of the hip was experienced; on the next day pain of the hip less, but it was more severe in the buttock—here 10 needles were introduced, and 5 at the hip joint. Third day, hip free from pain, and considerably less pain was also felt at the buttock; for 12 days a dozen needles were daily inserted at different parts of the thigh and leg—and by degrees the pain was entirely removed. "Ten months have now elapsed and the patient has had no return of the disease: it is proper to remark, that during the whole time acupuncturation was employed the patient followed his usual occupations."

Case 3. W. S., 25 years of age, had been for twelve months occasionally affected with a pain of the head, particularly of the left temple. The pain continued usually for a day or two, and was often so severe as to prevent the patient from attending to his business. Subsequently the pain recurred regularly every month; it was preceded by no chill, nor attended by any fever or perspiration; the urine was, however, clouded. The case was at first treated for a *febris intermittens larvata;* the patient happening, however, to witness the operation of acupuncturation, requested that it might be tried in his case; he was accordingly directed to remain without medicine until the next paroxysm occurred, when a fold of the skin being raised at the seat of the pain, through it were inserted six steel needles; after fifteen minutes they were removed, and it was found that the pain had entirely disappeared. The ensuing month the pain again returned, but with less severity; the introduction of the needles was repeated, and in ten minutes the pain was entirely gone, "nor has it again returned, although eight months have elapsed since the operation was last performed; previously, for a twelve-month, the pain had recurred regularly every month."

Case 4. This was an inflammatory affection of the left arm, extending from the shoulder to the elbow, and produced by the patient having three days before

carried a basket heavily loaded with wood up a steep hill. By the advice of a surgeon she had lost three cups of blood, had twenty leeches applied to the affected arm, followed by frictions with the volatile liniment. When Dr B. saw the patient, the arm was greatly swollen and red; the slightest touch, and every motion of the limb increased the pain; the pulse quick, full, and hard. The patient was upwards of 45 years old, of a robust constitution, and had previously enjoyed good health. Notwithstanding the symptoms of this case appeared to call for the continuance of depletory measures, yet several circumstances induced Dr B. previously to try the effects of acupuncturation; 15 needles were accordingly inserted at the seat of the disease, in various directions; when, after fifteen minutes, they were withdrawn, the patient declared that her sufferings were much lessened, and she was able to move the arm freely. She besought Dr B. to permit her to return the following day, in order that, by a repetition of the operation, her pain might be entirely removed. Nothing more, however, was seen of this patient for two months, when she came to the doctor's house in company with another patient. She then stated that the day after the operation, all pain having ceased, and the free motion of the arm in every direction having returned, she had therefore not thought it necessary to trouble the doctor. No remedy of any kind, excepting the acupuncturation, had been employed.

Case 5. K., a man about 40 years old, had for two years laboured under a pain of the loins, which finally arose to such a height as to prevent him from following his business. Every motion of the lower extremities augmented the pain, and a recumbent posture was the only one, frequently, in which any ease could be obtained. There was no fever, the appetite was diminished, the tongue covered with a white fur; great tendency to constipation. An interrupted state of the circulation through the abdominal vessels was evinced by the sallow complexion, uneasy feelings in the abdomen, frequent griping pains in the region of the stomach, and the occasional fits of peevishness to which the patient was subject, without any external cause; no hardness or swelling in the abdomen could be detected. The patient was, during three weeks, treated by gentle resolvents, and an occasional cathartic. Under these remedies his general health improved—tongue cleaner, appetite restored, and the inclination to peevishness removed; but the pain in the loins was in no degree abated. For two weeks all remedies were discontinued, at the end of which time, the pain still continuing, five needles were inserted on each side of the loins; after fifteen minutes they were withdrawn, and the pain was found lessened at the place of their insertion, but removed lower down. For ten days the operation was repeated daily on that part to which the pain was successively removed, and the patient was then enabled, without inconvenience, to bend and turn himself in every direction, which he had been unable to do for two years. "Twelve months have now elapsed since the last performance of the operation, and the condition of the patient is still the same."

Case 6. A man, about 40 years old, had for eight weeks been affected with a chronic rheumatic inflammation of the left eye, with opacity of the cornea. The usual remedies had been employed without effect. When Dr B. saw the patient he still complained of pain of the head and eye. Blisters were directed to the back of the neck, to the fontanels, and to both arms, with various remedies internally; these produced no effect. For two weeks all medicines suspended; acupuncturation was now performed, and the inflammation of the eye and pain of the head were entirely removed. The opacity of the cornea was also considerably diminished. The operation was repeated daily for two months, to ascertain its effects upon the latter, when, to the astonishment of the doctor, he found that the spot upon the cornea was reduced to less than one half its original size, and its opacity so much diminished that it interfered very little with the patient's sight.

23. *Effects of Croton Oil absorbed by the Hand.*—In the London Medical and Surgical Journal for December, we read the following account:—"The sister and nurse of one of the wards of Guy's Hospital were one day employed in rubbing the oil of croton upon the abdomen of a patient obstinately constipated.

About three hours afterwards the sister (of the patient or of the ward?) who had most freely used it, found herself smartly purged, at the same time feeling a peculiar sensation through her whole frame, and a nauseous taste in her mouth. Shortly after the nurse also was seized with purging, though with less severity than the sister, and unaccompanied by any other symptoms. On the patient himself it did not act, which was explained by the disclosure, on the inspection post mortem, of a complete mechanical obstruction."

24. *Tartar Emetic in Rheumatism.*—M. LAFOSSE, of Montpellier, details two cases of this disease successfully treated by Professor LALLEMAND. The remedy was tartar emetic. Bleeding by leeches in the first, and general and local depletion in the second case, together with emollient cataplasms to the joints in both, failed to give relief. Four grains of tartar emetic, to be taken in four doses in the course of the day, were then prescribed for the first patient, affected with coxo-femoral pain, and repeated on the following day. Six grains were next prescribed, to be taken in six doses, and this treatment was continued for five days longer, when the patient, a soldier, aged 23 years, was quite recovered. The next, also a soldier, aged 21 years, suffering from acute rheumatic pain of the right knee, took the antimony as above, four grains in the day, and continued its use for eight days, after which time he was declared convalescent. Nausea was felt by both of these patients during the first day's administration of the remedy.

We have ourselves used tartar emetic in full doses, similar to the foregoing ones, on patients affected with rheumatism, at the Philadelphia Dispensary, and with decided success.

25. *On the Nature and Treatment of Cholera.*—Dr CHRISTIE, of the Madras Medical Establishment, finding that the morbid appearances in cholera are invariably confined to the mucous system, has made a division of the disease into—1. Inflammation; 2. Catarrh. Catarrh he defines to consist of a diseased action of a secretory apparatus of a mucous membrane, which produces an increased and vitiated secretion; it may occur conjointly with inflammation. In all Dr C.'s dissections, he has found the following appearances: a whitish, opaque, viscid substance, adhering to some portions of the mucous membranes, sometimes very abundant; the stomach and portions of the intestine were filled with a transparent or turbid serous fluid; and, frequently, the viscid matter above mentioned was found mixed with it, or floating in it, in the form of flakes. The mucous membranes, except when inflamed, had an unnatural whiteness, and could, generally, be detached, by scraping, in the form of a thick pulp, from the subjacent coat. The secretion has sometimes been observed to be bloody, at others, of the colour and consistence of cream. The morbid appearances next in frequency are venous congestion of the viscera, particularly of the abdomen; dark coloured blood in the veins, sometimes in the left side of the heart, and inflammation of the mucous membranes, generally confined to the pyloric extremity of the stomach and small intestines. The blood drawn from cholera patients is sometimes perfectly black, of the consistence of liquid honey, or forming, after a few minutes exposure, an uniform coagulum, without separating into serum and crassamentum; sometimes it is of the usual dark colour, with red streaks, and sometimes nearly natural. Dr C. has proved by experiments that the fluid part of the secretions is pure serum, and the coagulated part fibrin.

The distinction drawn by the author between the catarrhal and inflammatory cholera, does not seem to be carried out by him in practice, both species being treated by the same remedies. Of course we cannot coincide in his assertion of the effects of the two on the heart and arteries being very different, nay, completely opposite.

First, in the catalogue of remedial means recommended by Dr C. for cholera, is blood-letting, to be employed not only in the robust European, but the delicate native, and not only where there is increased action in the circulation, but in every case where blood can be obtained, except, however, where great debility has existed previously to the attack of the disease.

Blisters to the abdomen, and cataplasms of mustard and capsicum to the feet and legs, with hot sand in friction to the arms and hands, are also beneficial.

In catarrhal cholera, opium, according to Dr CHRISTIE, is given to suppress the vomiting and purging, to alleviate spasms, and assist in restoring the circulation to the surface. In inflammatory cholera it is only given to allay the vomiting. Alcohol, ether, and other stimulants, are only admissible in the latter stages of the disease; but calomel is one of the most extensively useful medicines we possess for the treatment of cholera; it is used in both forms of the disease, either alone, or in combination with cathartics, or in the catarrhal form with opium.

We are indebted to the London Medical and Surgical Journal for the above notice of Dr CHRISTIE's work. We have only, in conclusion, to express our doubts of the propriety of that part of the treatment of cholera which consists in the administration of calomel, without any particular restrictions, and of purgatives, as legitimate inferences from, or safe applications of, the declared inflammatory or catarrhal condition of the digestive mucous membranes. We are inclined to regard this as an example of the predominance of habit and routine over demonstrative proof and reasoning.

26. *Case of Inflamed Lymphatics cured by a Blister.*—This case is recorded of himself by Dr EPPS, one of the editors of the London Medical and Surgical Journal. On Tuesday, November 4, he felt a soreness of the thumb. On Thursday morning the pain was considerably increased; the thumb was quite puffed up, and there existed a livid redness all over it. A dull uneasy sensation was felt up the arm, and a streak of red passing along was perceptible; it could be traced over the radius to the bend of the arm, whence three red stripes had extended up to the axilla.

Dr EPPS finding that no time should be lost, applied a blister of a length sufficient *to extend from the axilla down the arm to the last phalanx of the thumb.* It was applied the second day, and in the evening was in full activity. It was allowed to remain on till the following morning; several large blisters were formed, and a considerable quantity of a yellowish serum was poured out. The blistered surface being dressed with ung. cetacei, the arm was supported in a sling. The peculiar sensation up the arm was gone, but the thumb remained stiff and puffed. On Saturday, having examined the thumb more minutely, a pimple was seen on the part where the original scratch was situated, and a circumscribed redness and tenderness around the same. Dr E. cut open the skin all around, and then applied an ointment composed of equal parts of yellow resin and spermaceti. On Monday, the thumb being still swelled, a poultice was applied and continued until Tuesday morning, by which time the thumb was reduced to its natural size. Adhesive strips were finally used, and the whole was speedily well.

The hand swelled considerably after the blister was removed, but this depended upon the position of the arm.

27. *Epidemic Dysentery at Edinburgh.*—In the Edinburgh Medical and Surgical Journal for January, we read a brief but very pertinent account of dysentery as it prevailed in Edinburgh in the summer and autumn of the last year. The author, Dr CHRISTISON, describes the organic changes during the march of the disease in those cases of fatal termination, as follows. "The appearances found on dissection were the various stages in the effects of inflammation on the mucous membrane of the rectum, colon, and sometimes too of the lower part of the ileum. In the acute cases, which terminated fatally, so early as the tenth or eleventh day, the most extensive derangements of structure were remarked; in the more lingering cases, which after the first eight or ten days assumed the external character of chronic diarrhœa, and proved fatal in four, six, or eight weeks, the disorganization was in general less extensive. The appearances observed were redness of the inner membrane, thickly scattered ulcerations, most abundant over the longitudinal bands of the colon, commonly occupying and destroying the rugæ, seldom penetrating beyond the

inner surface of the muscular coat, frequently stripping that membrane of large patches of its mucous coat, frequently also covered by shreds of lymph, and sometimes by red, spongy, fungoid granulations. Even in the most acute cases, although no scybalæ had been discharged during life, the colon was found empty of fæces. The other organs in the belly were not affected; and in particular the liver, which has been supposed by some tropical practitioners to play an important part in the parallel dysentery of hot climates, did not in a single instance deviate from its healthy condition.

In every essential respect the late dysentery of Edinburgh appears to be precisely the same disease as that which prevailed in Dublin in 1818 and 1821, and which Dr CHEYNE has so well described in the third volume of the Dublin Hospital Reports.

"The treatment generally pursued in the wards in the Edinburgh Infirmary, under my own charge, consisted at the commencement in the liberal use of opium, preceded in some instances by the free application of leeches to the lower part of the belly, and frequently accompanied with the application of large blisters, and with the use of the warm bath. If the stage was passed during which feculent matter was discharged, and the evacuations had become muco-sanguinolent or sero-sanguinolent, I usually directed the application of leeches to be immediately followed by doses of pure opium, of such magnitude and frequency as were found necessary to check the unremitting diarrhœa and tormina; and sometimes the desired effect was not procured till the patient was pretty strongly affected by the narcotic action of the drug. In urgent cases, twenty or twenty-four grains in the twenty-four hours were sometimes necessary from the very beginning; in the slighter cases four or six grains were sufficient. When an impression was once made on the discharges it was maintained by doses of two or three grains repeated according to circumstances; and frequently the exhibition of opium by the mouth was conjoined with its employment in the form of a suppository. I never but once found this plan to fail in checking the discharge of blood in twenty-four or forty-eight hours, if the patient was seen within three or four days; but the blood often reappeared abundantly in the stools, if the opium was intermitted on account of its causing too complete constipation. After the hemorrhage was permanently checked, the frequent thin feculent stools continued many days, sometimes many weeks, indicating, it is to be presumed, the existence of ulceration, which consequently must have taken place at a very early period of the disease. The opium, it is worthy of remark, rarely caused sickness or dry tongue. In cases in which the stools continued long thin, and with a tendency to be tinged now and then with blood, an opportunity occurred for trying various remedies which have been supposed to be useful in this stage by accelerating the cicatrization of the ulcers. But I cannot say that any of them appeared to be of use, unless opium was combined with it in such quantities as to be itself a powerful agent. The acetate of lead was perhaps an exception; it certainly rendered the stomach less irritable, in the few cases in which opium alone was rejected by vomiting; and although I had too few opportunities of trying it in idiopathic dysentery, the experience I have had in the Fever Hospital and Infirmary fever wards of its good effects in the chronic dysentery, which is sometimes left after this fever, induces me to think that its alleged virtues in the chronic stage of idiopathic dysentery have not been exaggerated. Neither ipecacuan, nor nitric acid, nor calomel, administered so as to affect the mouth, appeared to me materially useful. I have had but one opportunity of trying the effect of calomel in scruple doses, upon the early stage of the disease. It was given on the fourth day with marked advantage certainly, and was repeated next day with equally good effect. But ulceration had evidently taken place before the patient came under my charge; and although the acute symptoms were checked, yet, as the patient was an emaciated subject, transferred from the surgical wards, with a recently opened, extensive, chronic abscess, he sank under the exhausting purulent discharge from the bowels and abscess together. The only other patients I lost were two in number—one an old man of ninety, who entered the hospital on the eighth day

of his illness, in a state of extreme exhaustion, so that, although the stools were checked, he died two days afterwards; the other, a young woman, who, immediately after coming out of an exhausting and tedious attack of continued fever with marked enteritic symptoms, was seized with dysentery in its worst form, and died on the tenth day, without experiencing any relief from treatment beyond the allaying of pain."

No mention of general bleeding is made by Dr CHRISTISON.

28. *On the Medicinal Uses of the Herb Cherrattah.*—The attention of English practitioners is directed to this herb by Mr BAKER of London. He tells us in the December number of the London Medical and Physical that "it has been held from time immemorial in great estimation by the natives of Bengal and the European residents, especially the medical officers, as a very efficacious deobstruent and stomachic medicine."

We learn from Mr B. "that the effects of the cherrattah are not, like stomachics in general, confined to the stomach, but extended to the abdominal viscera, particularly the liver, which it deterges, or (as Dr CURRIE observes) emulges;" for the fæces during its use are well charged with bile, and the complexion becomes clear.

There are two forms of expression not uncommon in medical writings—one technical, perhaps unavoidably so, the other is mere cant—illusive and unmeaning promises of imaginary effects. Under this latter head we must needs class the terms stomachic, detergent, emulgent, &c.

What is a stomachic? Are not cold and hot water, milk and whey, fresh air and exercise, and frictions—each respectively entitled to this appellation? In the common acceptation of the word a stomachic is a bitter or astringent with some aromatic addition, but which is usually so used and abused as to directly enfeeble the functions of the stomach and digestive apparatus generally. Its effects are chronically what those of vinous and alcoholic potations are in a more acute and violent form. The history of the Portland powder will with slight modifications represent that of most of the bitter and astringent preparations employed in the treatment of dyspepsia, and its kindred affections hypochondriasis and gout.

It is not so much new remedies which we want as sounder principles to guide us in the employment of those already in common use: and we should be tempted, at the hazard of being called paradoxical, to express as our belief that physicians could do more good in the treatment of disease, by their being restricted to a few remedies of acknowledged power, and compelled to nicely weigh and balance the precise indications to be fulfilled, than by wandering over the catalogue of a thousand drugs, and trying each in succession with a faint hope founded on traditional evidence of its being successful.

Mr BAKER (to whom we of course mean no offence by these remarks) says that "the medicinal virtues of the herb are imparted to boiling water, and the infusion, when properly made, is a very grateful bitter; but the natives prefer the decoction made by boiling half an ounce of the cut dried herb in a pint of water for about fifteen or twenty minutes. Of this decoction they take a small wine-glassful two or three times a day. The extract, which also contains the virtues of the herb in great perfection, is taken in the form of pills.

In scrofula Mr B. has frequently witnessed its salutary operation. He does not acquaint us with the botanical characters and habits of the cherrattah.

29. *Nitrate of Silver used in the Treatment of Small Pox, and Pustulous and Vesicular Eruptions.*—The method of treating small pox, says a correspondent (in Paris) of the London Medical and Physical, immediately on their appearance, by touching their bases with a strong solution of nitrate of silver, maintains its reputation. Numerous cases of zona, successfully treated in the same manner, have been published. A female thus cured was exhibited in the amphitheatre at la Pitié. In several cases attended with great constitutional disturbance, gastric irritation, pains, vomiting and shivering, followed by heat of the

skin, the local symptoms alone were attended to: they were immediately arrested, and the constitutional affection also ceased.

The same effect was perceived in one of the most fatal epidemics of confluent small pox that ever prevailed in the French metropolis. Previously to the use of the nitrate of silver the patients were carried off by cerebral and intestinal inflammation. In those cases where the pustules were treated by the caustic the constitutional symptoms abated with the local irritation, and the mortality was averted.

A case at the Val de Grace is thus described by M. Broussais: "An extensive and painful zona, accompanied by fever, headache, and redness of the tongue, disappeared in a few days by cauterization with nitrate of silver. The fever ceased on the first application; a certain proof that the visceral irritation was subordinate to that of the skin."

We are not aware of its having been used in pemphigus: it is deserving trial. The only distinctions by the French pathologists between zona and pemphigus are found on the form of the former: pemphigus is called *dartre phlyctenoide;* zona, *dartre phlyctenoide en zone.*

30. *Opium in Delirium Tremens.*—Mr Smith (London Medical and Physical Journal) concludes the history of two cases of this disease successfully treated by the exhibition of opium, by some questions—among others, "What is the best form of giving opium: whether in the way of tincture, the gum, or liq. opii sedativus? and what is the result of experience with respect to the exhibition of suppositories? He cites as the opinion of Dupuytren, that a small quantity of opium administered per anum is generally more powerful in its effects over the system than the same or even a larger quantity given by the stomach. M. D.'s reasons are that the opium undergoes no change in the rectum as to its actual composition, whereas, in the stomach, it is very soon altered, to a certain degree, by the gastric juice and the other substances contained therein.

31. *Angina Maligna treated by Nitrate of Silver.*—Dr Guimier, availing of the experience of an English physician in the use of nitrate of silver, had recourse to it in thirty patients labouring under epidemic angina. Bleeding, general and local, vomiting, cauterization with hydrochloric acid, and various resolvents had been found wholly inefficacious. The tonsils, uvula and pharynx were covered with membranous concretions of a grey, white, or yellow colour: these were thick and adherent, extending into the air passages, the larynx and trachea. The symptoms were croup and angina conjoined in what is called by the French *dipherite.* The respiration was impeded and hissing, accompanied with hoarse dry cough. Death, in those who sunk under the disease prior to the employment of the nitrate of silver, was caused by suffocation. The thirty patients to whose tonsils, uvula and pharynx the nitrate of silver was applied merely complained of its bitterness. The eschar in these cases is limited to the surface, whilst after the use of the hydrochloric acid it spreads to the continuous parts, and its extent cannot be easily measured. Generally speaking the remedy is unsuccessful when the disease has extended to the air passages.

32. *White Swellings cured by Iodine.*—This medicine is becoming more and more celebrated in scrofulous tumours of every kind, including those of the joints. The best means of using it is by friction with the ointment of the salt, or of the iodine itself. The tincture has been advantageously used in the same way.

33. *Mode of Exhibition for Balsam Copaiba.*—The following formula is given by a correspondent in the Lond. Med. & Surg. Journ. for January.

℞. Bals. Copaibæ f.ʒij.
Pulv. Acaciæ ʒij.
Sacchari ʒiij.

Liq. Potassæ f.ʒiss.
Spir. Myristicæ f.ʒj.
Aquæ f.ʒvi.

Fiat mistura. Dose, two table spoonfuls three times a day. As this mixture is apt to leave a caustic taste behind it, the patient should wash his mouth and fauces with some mild diluent.

34. *Case of Neuralgia.* Dr WILSON, author of a work on West India fevers, has described in a letter to Dr JOHNSON of the Medico-Chirurgical, the following practice as attended with a complete and permanent cure in three cases of neuralgic disease.

"A pill containing from two to four grains of calomel, and one or two grains of opium, was given each night at bed time, and, next morning, one or two drachms of oil of turpentine, mixed with a little honey."

35. *Means calculated to prevent the Absorption of Virus.*—M. PRAVAS proposes the following: 1. To rub in a vacuum the poisoned wounds, and to direct on their surface a current of a liquid fit to cleanse them. 2. To apply on the points touched by the poison, galvanism by means of two conductors of platinum brought as close together as possible, and introduced into a cupping glass, when the application of this latter is possible. 3. To cauterise immediately in the vacuum with the nitrate of silver or muriate of antimony.

36. *Spontaneous Salivation treated by the Mastication of Cinnamon.*—M. BAYLE, in the *Revue Medicale* for October last, gives two cases: one coming under his own observation, the other taken from SOUQUET, of protracted spontaneous salivation.

The first was of a celebrated literary gentleman, M. X. of a robust constitution and sanguine temperament, who never had the venereal disease nor used mercury. In 1825 he contracted a mild gonorrhœa, which disappeared in a few days under the use of diluent drinks, and some emollient and mucilaginous applications to the affected part.

On the very day in which this gonorrhœa appeared, there came on a most copious salivation, to the extent of three pints daily. The parotid submaxillary and sublingual glands were not, however, either swelled or painful; the saliva was not altered and all parts of the mouth were quite healthy. Several physicians were consulted by the patient, who, though in other respects enjoying good health, became feeble and pale by so profuse a secretion. He made use in succession of rattany, tannin, pomegranate bark, powder of roses, bistort root, rind of walnuts, acetate of lead, and Peruvian bark; but the ptyalism was augmented in place of being diminished by these means. Purging during a month produced no effect.

In July 1826, a year after the attack, the quantity of saliva discharged being always the same, M. X. had recourse to the mastication of cinnamon of Ceylon, a practice indicated by SOUQUET in the *Journal de Medecine*, (t. 22). From the very day of using it the discharge was reduced to two or three glasses per diem; but the persevering continuance of it and increase in its quantity was not sufficient to entirely arrest the salivation which eventually, towards the beginning of autumn, increased to more than double the quantity just stated, that is, to four or five glasses in the day.

M. X. suspended for a year the use of the cinnamon, without the salivary secretion being sensibly diminished or increased. He observed henceforward that food and drink had a great influence over this discharge, which was augmented by some of them, such as beef and mutton, venison, oysters, ices, iced drinks, angelica, oranges, lemonade, and all acids, mint, orange flower, coffee, salad, potatoes, liqueurs, strong wines, and especially those of Mâcon, Nuits and Beaume, &c. On the other hand, the following articles had a contrary effect:

milk, gruel, chicken, veal, spinach, cauliflower, light drinks, water and old Bordeaux wine.

In July 1828, after a year's omission of the cinnamon, the patient resumed its use but without any good effect, no more than from the balsams of Tolu and Peru. He used the cashew nut, which only augmented the ptyalism and caused pain of the head and oppression.

At this present time (October 4), M. X. is in the following condition. The quantity of saliva discharged, is from one to two glasses per diem; being a little increased since the weather has become cooler and moist. The patient has observed ever since the beginning of his disorder, that the secretion is most abundant in the morning when he awakes; it ceases after he has taken a piece of sugar or of bread, and is almost nothing during the two or three first hours which follow the meal; but is renewed when the stomach is in need of aliment. As he rarely experiences the sensation of hunger, he is warned of the necessity of eating by the augmentation in the quantity of the saliva. This secretion undergoes changes not only in quantity but quality, according to the drinks which he uses. Thus it preserves its natural characters when he drinks Bordeaux wine and water, whilst the more alcoholized wines render it viscous and brownish.

M. X. in other respects enjoys excellent health; for the paleness and weakness which had supervened at the epoch in which the salivary flux was very abundant, disappeared when it was in a great measure suppressed by the mastication of cinnamon.

Encouraged by the observations of MM. GUNELLE, GOEDEN, HENRI, RICHOUD and SABLAIROLES, going to prove the efficacy of iodine in chronic fluxes, the reporter of this case, M. BAYLE, has advised M. X. to make use of frictions of ointment of the hydriodate of potass under the jaw, in the arm pits and groins. M. BAYLE promises to make the result public after a few months trial of this practice.

The account of the second case is taken from SOUQUET. It was of spontaneous salivation of five pounds daily for nine years and a half, and a tertian fever with extreme debility, for ten months prior to the physician's taking charge of the patient. The fever was cured by a confection of bark, gentian root, and flowers of centaury, equal parts, and the salivation was arrested by the mastication of cinnamon. The directions given to the patient by SOUQUET were, to chew well the cinnamon bark, to extract all its juices, to swallow them, spitting out only the insipid ligneous portion. This advice was adhered to for five or six months with the effect of entirely removing the disorder. Light and nourishing food was given from the beginning to restore the exhausted strength of this individual, who had been reduced to a most deplorable state of exhaustion.

37. *Hydrocyanate (Prussiate) of Iron as a Substitute for the Salts of Quinia* (HUFELAND's Journal).—In the spring of 1827, intermitting fevers became very common in Gustrow and other cities of Mecklenburg. The most common type was the tertian, which though for the most part regular, was sometimes singularly marked. Dr HASSE of Gustrow notices three cases of a rare variety of tertian fever. Besides slight chills and general uneasiness, the patients were seized with violent pains in one or other leg, chiefly in the muscles of the calf, whence they extended to above the knee. These pains disappeared in the course of eight to twelve hours; but they always left behind them a weakness and an inability to put the foot of the affected side to the ground, until a new paroxysm returned. In the beginning the fit came on several times at nearly the same hour, and afterwards anticipated the regular epoch by one or two hours. The existence of a masked tertian fever could only be suspected by the periodicity of the pains and a slight brick dust sediment after their cessation.

With some exceptions all these fevers yielded readily to the use of the sulphate of quinia; but as this salutary medicine could not, on accouut of its high price, be administered to every body, Dr HASSE made successful trials of the hydrocyanate of iron or Prussian blue. When symptoms of gastric distress were present which was frequently the case, he directed on the first appearance of

the approaching paroxysm, five grains of ipecacuanha taken every ten minutes, until vomiting was produced; or according to circumstances, he gave a laxative in the apyrexia.

The hydrocyanate or prussiate was administered as follows:—R. Prussian blue gr. xii. to ℈i.; aromatic powder, or white pepper, or mustard powder, ʒss. Mix and divide into twelve papers. One of these is to be taken every four hours during the apyrexia. The patient, of course, took in all from four to six papers during the apyrexia. In general the paroxysm following the administration of the febrifuge was so mild, that three doses were sufficient in the second and third intervals to prevent entirely the coming on of the third paroxysm. As a matter of precaution only, the patient took two doses on the seventh, fourteenth, and twenty-first day, and the fever entirely disappeared.

The hydrocyanate of iron, administered as above indicated, never produced any bad effects, either on the digestive canal or the encephalon.

The success attending the prescription cannot be attributed to the pepper which enters into its composition, since this article had been taken largely, without effect, by the patients, who were subsequently cured by the hydrocyanate.

For further information on the efficacy of this salt in intermittent fevers, our readers are referred to the papers of Drs ZOLLICKOFFER, of Maryland, and JACKSON, of Northumberland county, Pennsylvania.

38. *Nitro-Muriatic Pediluvia.*—In HECKER's Annalen for May, 1828, there is an account of the employment, by Professor ITH, of Berne, of a pediluvium, consisting of a high vessel of water, in which are poured a tablespoonful of hydrochloric (muriatic) acid, and one of nitric acid. The patient immerses his lower limbs up to his knees in this bath, and repeats it every evening for six or eight evenings. The results, as detailed by Dr ITH, are the following: 1. The cure of a great number of intense cephalalgias, arising from causes the most various, such as a fall on the occiput, obstinate constipation, and other affections of the digestive canal. In all such patients, with the exception of one of a very plethoric habit, the headaches which had been in vain combated by other remedies, promptly yielded to the application of the pediluvia. 2. In one case, after every pediluvium, there were borborygmi, colics, and abundant fecal discharges; in other instances there only supervened softer, and rather more copious stools than common. 3. A complete and radical cure was produced by eight of these pediluvia in a case of hypochondriasis, carried to monomania, and even in one of cephalalgia, threatening to terminate in phrenitis, and under the influence of which there was developed in a short time, on the forehead, a kind of tophus. Frequent and copious alvine evacuations, procured by medicine, had failed to give relief. 4. The last patient not only experienced the above mentioned effects in the abdominal viscera, but he experienced also, during the use of the pediluvia, an acidulous taste in the mouth. 5. In a case of want of appetite of long standing, accompanied by headache and constipation, the appetite was promptly re-established, even before the pains of the head had disappeared. 6. The local effects of these pediluvia only consisted in a slight redness and tumefaction. In one case the swelling lasted for several months, but at last disappeared spontaneously.

39. *Root of the Selinum Palustre as a Cure for Epilepsy.*—Drs SCHMUTZIGER, ARMINAN, and JOHN, of Switzerland, have published cases of epilepsy treated successfully by this remedy. The dose is from ten to twenty grains, according to the age of the patient, repeated every five hours, and after a time gradually augmented. The period of treatment varies from six weeks to three months. Dr SCHMUTZIGER forbids the employment of the selinum when there exist obstructions in any abdominal viscus, or when the genital apparatus is in a state of exalted sensibility; and, according to Dr JOHN, this medicine augments the violence of the disease in those persons where the sanguiferous and nervous systems are very irritable.

Several children, at Geneva, from 'e to eighteen months, who

had been sufferers from convulsions, during the process of dentition, experienced almost immediately the good effects of this substance, administered four times a-day, in doses of two grains.

M. Peschier, a druggist of Geneva, has analyzed both the *selinum palustre* and *selinum sylvestre*. Their composition is alike, both containing volatile and fixed oil, soluble in ether and alcohol at 34°, a gummy principle, a yellow colouring matter, a muco-saccharine principle, containing azote, a peculiar acid, phosphate of lime and ligneous matter. It would seem that the anti-epileptic property of these roots resides in the oleaginous and saccharine principles.

40. *On the Effects of Blood-letting.*—Dr Louis, in the *Archives Générales* for November, concludes a critical inquiry on this subject, especially directed to three diseases, viz. peripneumony, erysipelas of the face, and angina gutturalis by the following remarks:

"It results from the facts exhibited in this article, that bleeding had very little influence on the progress of peripneumony, erysipelas of the face, and guttural angina, in the patients presented to my notice; that its influence was not more marked in the cases in which it was copious and repeated, than in those where it was moderate; that we do not strangle inflammations, as we are often pleased to say, and that in cases where this seemed to be the case, it is probably because there has been an error in the diagnosis, or because the sanguineous emission was practised at an advanced stage of the disease, when it was near its decline; that it would be proper, nevertheless, to make trial in those inflammatory diseases in which the danger is imminent, such, for example, as peripneumony, of a first bleeding carried to syncope; that, finally, in the cases in which I was enabled to compare the effect of bleeding with the lancet with that performed with leeches, the superiority of the former of these methods seemed to me fully proved.

"I would add, that, in despite of their limited usefulness, sanguineous emissions cannot be neglected in alarming inflammatory affections, the seat of which is in some important organ, both on account of their influence over the diseased organ, and because, by abridging the duration of the disease, they diminish the chance of secondary lesions, by which the danger from the former is greatly increased; that as inflammatory diseases cannot be strangled, we must not multiply bleedings with the view of attaining this imaginary end, nor must we, besides, forget that a certain degree of power is necessary to the resolution of inflammation, since it is so much the more alarming and dangerous in proportion to the weakness of the patient, which weakness favours the development of secondary diseases; finally, the utility of general blood-letting being better proved in my observations than local bleeding, the lancet seems to me preferable to leeches in the diseases under consideration."

We give the above opinions of Dr Louis rather for a subject of meditation and inquiry to our readers, than with the belief of their entire conclusiveness as matters fully demonstrated. A larger field, and greater body of facts are required than Dr L. has exhibited, before we can pronounce magisterially on such important questions. We should be unjust, however, to Dr L., did we not admit the industry and candour by which his paper is characterized.

V. MEDICAL JURISPRUDENCE.

41. *Insurance of Lives. Medical Certificates. Medical Evidence.*—The following case, and the commentaries on it, taken from the London Medico-Chirurgical, will be read with interest both on account of their adaptation to similar institutions in this country and as a caution against similar abuses in them, as well as in granting certificates of bad health or lameness to exempt from militia duty. We were on one occasion rated in no very measured terms for not complying with the request of a man, to certify that he was infirm and in bad

health, in order that he might obtain a license to be a pedlar, when in fact he could not himself tell how or wherein he was unfit for good hard work.

There is a branch of medical jurisprudence which is every day increasing in extent, from the general extent of insurance on lives, and in which, we are sorry to say, the medical character is daily exposed to obloquy, and suspicion of its integrity—not so much, perhaps, from want of principle in individuals, as want of reflection on the duty they are called upon to perform. A policy of insurance cannot be effected without a medical certificate, as to the constitution and state of health of the individual; and the ordinary medical attendant is, of course, referred to by the party proposing to insure. We acknowledge that the physician or surgeon thus appealed to is placed in an awkward situation. If he reveals any defect in the constitution, he risks the rejection of the proposal at the insurance office, and, perhaps, some umbrage on the part of his former patient;—but if, on the other hand, he conceals any flaw in the said life, he not only deviates from the right line of moral rectitude, and thus exposes himself to the loss of character for veracity—but he exposes the surviving family of the party insured to disastrous law-suits, and forfeiture of the policy! All concealments of disorders or tendencies to disease—all misrepresentations of sound constitution, vitiate the policy, according to law and justice, and shake the foundations of those reciprocal advantages which the insuring and insured parties confer and receive. We have daily opportunities of witnessing the unenvied situation in which medical men place themselves by inconsiderate (to give it the mildest term) attestations of sound health, when a minute's examination detects an unsound constitution—too often, actual disease of some important organ! These instances of loose and improper certificates from medical men are now hourly coming before whole companies of respectable and influential members of society, who must and do form, in consequence, a low estimate of the medical character, thus injuring the whole profession. The evil is still farther increased by the litigations which naturally ensue, as effects of these unjustifiable certificates, and the wide range which the exposure of the medical character takes through the medium of the press. We need only refer to a recent trial between Baron Von Lindenau and the Atlas Insurance Company, where a system of medical misrepresentation came out that is quite sickening to peruse. The late Duke of Saxe Gotha was insured in the above office, for three or four thousand pounds, in the year 1824, on the faith of medical attestations, though it turned out, that the Duke was even then reduced to a state of idiocy, mutism, and cecity, by an organic disease—a large tumour in the skull, pressing on the brain! Yet the Duke's physicians, Drs Worl and Zeigler (shame on such physicians!) certified that they had known the Duke for many years—that his general health was good—that he was merely "*hindered* in the faculty of speech"—and had an affection of the left eye! The evidence of the Duke's physicians and servants went to matters of fact—and we have no hesitation in saying that these facts were concealed or misrepresented. The evidence of Mr Green touched matters of opinion—and these matters of opinion we shall quote.

"*Mr* Green *examined.*—I am a surgeon in London, and lecturer at St Thomas's Hospital. I have attended to the evidence concerning the Duke's health. I am of opinion that the tumour in the skull must, during life, have been in a passive state—I think, from the appearance of the skull, that it must have been formed in very early life. Little change could have taken place after ossification, and the base of the skull is one of the parts earliest ossified. It is the nature of organic conformations like that to produce ailments which continue to increase. When such tumours exist in a state that may be termed morbid the ailments increase. Supposing the dissection had not taken place, and knowing only what I have heard to-day of the Duke's health before he went to Italy, I should say there was no symptom of organic disease. The spasms which followed the tertian fever, and even spasms more violent, might have arisen from causes quite unconnected with the brain. The attacks, gradually diminishing and ultimately ceasing, would confirm me in my opinion that they did not proceed from the brain. From the cure of the derangement of his digestive organs

at the baths of Marienbad, I should still conclude that the brain was healthy. After the dissection, supposing a knowledge of the tumours discovered in the brain, knowing the whole course of his illness, and taking into account the care taken of the Duke, I should say, that the probability before his death was that he would have lived five years longer. With respect to what has been said of the Duke's difficulty of speech, I hardly know what cause to ascribe it to, from the imperfect manner in which it has been described; but I think it was in the mind rather than in the tongue. I am inclined to ascribe it to a want of volition. I do not think that it is to be ascribed to the tumours in the brain. I should not consider that the catarrhal attacks he had passed through would render it less probable that he would live. I have heard the state of the Duke's mind described; but do not think it amounts to idiocy, imbecility or derangement—quite the reverse.

"*Cross-examined by Sir J. Scarlett.*—Do you not consider vigour of mind to be the reverse of imbecility, and intelligence of idiocy?——Yes.

"Then you consider the evidence adduced in this case as showing Duke Frederick to have possessed an intelligent and vigorous mind!—I have not said so.

"No, but you say his state was the reverse of imbecile and idiotic; and you allow that vigour of mind and intelligence constitute the reverse of these conditions. When you hear the Duke was 'controlled in his intellect'—that he was watched like a child—that he was so lethargic that he did not move unless desired to do so, and that he, a prince, suffered himself, at his parties, to be turned round and round for the amusement of his guests—do you, I ask, consider these facts as evincing a vigorous intellect?——I have heard the evidence imperfectly if all these things appear. I heard that he had perception, memory, and other mental qualities; that he was fond of music and of hearing reading.

"Do you think that the symptoms pointed out the existence of disease in the brain?——I do not think so.

"If a patient had had occasional attacks of spasm—if he had been unable to speak for two years—if he had been so indolent as never to move about except when asked to do so—if he was imbecile in his mind—and if, after he became speechless, he was in the habit of frequently putting his hand to his forehead—would you regard these circumstances as indicating any disease of the head?——These symptoms would lead to a *suspicion* of disease there.

"If the patient had an attack, with redness about the face—became affected with paralysis, and died; and if, on opening the head, you found a tumour of the brain, and ten ounces of water effused, would these appearances confirm you in your suspicion, and prove that it had been well founded.——I cannot give a direct answer to that question? Pressure on the brain, causing loss of speech, would also have produced other symptoms.

"But suppose a case such as I have described?——It is a case I cannot suppose.

"Might not the copious discharge during the catarrhal fever have relieved the brain?——Possibly it might, but these are cases not frequently falling under my observation.

"Might the sudden suppression of such a discharge have affected the brain?——Perhaps it might, by a kind of metastasis.

"What do you mean by that?——That an effusion of a different fluid might have taken place upon the brain from the suppression of the catarrhal discharge.

"Do you think the effusion found on the brain had taken place gradually or suddenly?——Suddenly.

"*By Lord Tenterden.*—If I, as a medical man, was asked by an insurance company concerning the state of a man's health who was unwilling to move, who was subject to control upon his intellect, and who had lost his speech, I should not consider myself at liberty to forbear mentioning these circumstances.

"*Lord Tenterden.*—Then there is an end of the cause, for that is the state of the duke described by Dr Dorl, who signs the certificate sent to the insurance office. "*Plaintiff non-suited.*"

We know not what to say to the foregoing evidence. Heaven forbid that we

should find fault with a man on account of his opinions, merely because those opinions may differ from our own; yet we think there will be but one opinion throughout the profession respecting the majority of Mr GREEN's conclusions, namely, that they were errors. Mr GREEN's statements show, in a clear point of view, the bad effects of directing too exclusively, (as surgeons often do) their talents and attention to operations, anatomy, and purely surgical diseases, to the neglect, comparatively speaking, of internal pathology; or, in plainer language, the nature, effects, and phenomena of diseases. We hope this short article will awaken our professional brethren to the necessity of guarding the character of themselves, and the faculty at large, from the reproaches which are gathering like a cloud, and threatening to cast a shade on their integrity as far as regards the granting of medical certificates for the insurance of lives.

42. *Poisoning by the Butter-milk of a Goat.*—It is stated in RUST's Magazine of the Medical Sciences, No. 1, for 1828, that in Herford, Westphalia, a woman and her five children, from two to thirteen years old, were, on the 12th of May 1827, poisoned by partaking of some goat's butter milk, which had been sent to them for food by a charitable neighbour. In about fifteen minutes after taking the milk they were all attacked with a violent puking; their eye-lids were half closed; the pupils dilated; pulse small, hard, and slow; epigastrium tumid; the abdomen contracted; no purging. Lukewarm water was given to increase the vomiting, after which two ounces of medicated soap, dissolved in water, one pint, with the addition of one ounce of almond syrup was directed; the bodies of the patients being washed with vinegar and spirits. In ten hours they were all recovered. Upon a minute analysis of the milk no mineral substance was found to be contained in it; Dr BONORDEN conceived therefore, that the animal from whom it had been taken had eaten in its fodder some narcotic herb, perhaps the *aethusa cynapium*, the poisonous properties of which had been communicated to the milk.

VI. SURGERY.

43. *Strangulated Hernia.*—Dr EHERMANN of Strasbourgh details the case of a man, forty-seven years of age, who, without apparent cause, suffered suddenly from the symptoms of strangulated hernia. On examination, a hernial tumour was discovered, tense and painful; but as two fingers could be passed into the external abdominal ring, and as a portion of the tumour could be felt behind it, it was manifest that the stricture could not exist at the external ring. At the end of the third day the operation was resorted to. An incision three inches long, exposed the tendon of the external oblique an inch above the ring, the sac was opened, from which escaped a bloody serum, and a fold of intestine of a livid colour and inflamed; the finger was then passed to the stricture, and this was divided by means of COOPER's blunt pointed bistoury, upwards and outwards, so that the finger immediately slipped into the abdominal cavity, and the intestine was easily produced. In less than a month the patient was discharged perfectly cured, wearing as a preventive an elastic truss.—*Jour. des Progres, &c. Vol. XI.*—This is an example of the stricture being seated at the *internal ring*, which does not frequently occur.

44. *Laceration of the Thumb.*—Isidore Chapron, while fixing a rope to a wheel turning with great velocity by a steam engine, had his thumb caught in a fold of the rope. In an instant the first phalanx was torn off with so little pain that he was hardly conscious he was injured. The division of the skin was as smooth as if it had been made by a cutting instrument; there was no hemorrhage, and very little pain. But what was most curious, the phalanx which was torn off presented the whole length of the two tendons, the flexor and extensor, inserted into the first bone of the thumb. These tendons, with short

shreds of muscular fibres at their upper fourth part, were eight to nine inches long, and had evidently been torn from the muscles at their points of origin on the fore arm. The patient was bled, and dieted for a few days. No bad consequences followed: there was no fever; very little swelling or suppuration; the bony extremity granulated without exfoliation. On the 20th day the patient left the hospital of Saint Lewis, and in fifteen days afterwards the cicatrix was complete and firm.—*Jour. des Progres, &c. Vol. XI.*

45. *Gangrene of a Crural Hernia.*—M. CAFFORT, surgeon of the Hotel Dieu at Narbonne, reports the case of a gardener, aged twenty-eight years, who was for three years the subject of an irreducible crural hernia. This became strangulated, but the surgeon in attendance treated him for gastro-enteritis by applying leeches to his epigastric. At the expiration of two days the true complaint was recognised, and another surgeon was consulted, who, finding the tumour gangrenous, declined any operation, and left the disease to nature. The patient was then conveyed to the hospital, on the eleventh day of the strangulation. He was discharged well in six weeks after the tumour had been opened, and a gangrenous portion of the omentum, four inches in length, had been removed.—*Nouv. Biblioth. Octob.* 1828.

46. *Aneurism of the Carotid cured by* VALSALVA'S *method.*—An aneurism of the left carotid artery, about the size of a hen's egg, and extending from the thyroid gland even to the clavicle, was cured by the continued use (from the autumn of 1820 to the spring of 1822) of a severe regimen, consisting of light boiled meats, bread, vegetables, and acidulated drinks, by rest, repeated bleedings, the internal use of digitalis purpurea, of the water of the laurus cerasus, and by the application of pounded ice. The patient could not endure compression of the tumour: he occasionally suffered from anginose affections, and from a difficulty of swallowing. It was in June 1826, more than two years, that he enjoyed perfect health.—*Rev. Med. for Octob.* 1828 *from* HECKER'S *Annalen.*

47. *Fungus Hæmatodes, cured by Alum and the Red Oxide of Mercury.*—In GRAEFE'S Journal, Vol. XI. an interesting case is related of which the following is a summary. Madame Brick, aged twenty-six years, who had been in her youth the subject of scrofulous swellings, but who, of late years, enjoyed good health, consulted Dr SCHUTTE in 1820, for a tumour on the left cheek, immediately before the ear. It was then of the size of a nut, and although moveable, yet adherent by some filaments to the skin. Some of the small vessels were dilated, and there were several eminences, like warts on the tumour itself. It was supposed to be caused by a blow received some weeks previously. The patient was again seen in January 1823, when the tumour was of the size of the fist, moveable at its base, but adherent to the skin, which was of a bluish colour, and marked by dilated veins. The tumour was indolent, it had little hardness, but more elasticity, as if it contained pus. On the 21st of April the patient observing a soft spot on the tumour, punctured it with a needle, but was surprised by a violent hemorrhage, which could only be arrested by great pressure. In two days after another bleeding occurred, which endangered life; two pints of blood were lost, and the opening into the tumour was greatly enlarged. Danger was for the time avoided by means of a tight bandage with a compress of lint, of colophony and gum arabic. On the 26th of April, the wound was found much enlarged, a new hemorrhage occurred which was arrested by the same means. On repeating the dressing on the 29th, the hemorrhage was more violent than ever, and the wound two inches and a half in diameter. The gum arabic and the colophony were now omitted for calcined alum in powder. May 1st. A little blood appeared on the removal of the dressing, which issued from innumerable small orifices from the whole exposed surface. The internal surface resembled a fine sponge, and had a whitish colour, here and there reddish. The same state existed on the fourth of May; a sixth part of the

red oxide of mercury was added to the alum. The part was daily dressed, increasing at each time the proportion of the oxide; and under the influence of this treatment, the morbid mass sensibly diminished. When the superior portion of the fungus was removed, which only occurred in November 1823, there was observed at the bottom of the wound a compact substance resembling perfectly by its colour and consistence the medullary substance of the brain. Blood oozed also from this surface, but not so freely as from the tumour. This encephaloid tumour gradually yielded under the influence of the burnt alum and red precipitate in equal parts. By the 5th of April 1824, the cure was complete. Bark and other bitters were administered internally during the whole of the treatment.—*Revue Medicale, Oct.* 1828.

48. *Laryngotomy.*—A man, aged twenty-five years, was irritating his nostril with a needle, when by some accident he suffered it to enter the nostril through which it passed and fell into the pharynx. The needle was armed with a large thread, which disappeared entirely. Much irritation and cough were excited, by which the thread of the needle was thrown out. The patient endeavoured by means of the thread to extract the needle, but in vain. The respiration and voice becoming affected; and renewed attempts at extraction failing, the patient entered the hospital Beaujon, on the 18th of June 1828. The symptoms of inflammation, swelling, &c. in the pharynx and larynx were now considerable; the voice was nearly lost, spasmodic contractions of the muscles of the neck were excited, and the soft parts in front of the trachea were much swollen. The house student having in vain endeavoured to extract the needle by means of the thread, sent for the surgeon, M. Blandin. The thread had now re-entered the pharynx, and all researches by means of the finger and forceps would not enable him to determine where the needle was fixed, whether in the larynx or pharynx. As the difficulty of respiration was still supportable, no operation was undertaken, but antiphlogistics, general and local, were employed with some advantage. On the evening of the 21st the thread was again ejected, by means of which M. Blandin discovered that the needle had entered the superior aperture of the larynx on the left of the epiglottis. On the 22d the operation of laryngotomy was performed, by making a cautious dissection through the indurated and swollen parts, in front of the larynx, then carefully puncturing the crico-thyroid membrane, and afterwards dividing, by means of a director and bistoury, the thyroid cartilage, through its whole length on the median line. The respiration was now much relieved, and an attempt was made to discover and remove the needle by means of the forceps; but the irritation excited was so great as to induce the operator to desist. The wound was lightly dressed by means of a perforated compress covered with simple cerate, and the patient removed to bed. The night was passed comfortably, and the next day the needle, of a black or bronzed colour, and nineteen lines in length, was found fixed in the compress covering the wound.

The wound gradually healed, so that by the beginning of September merely a small fistula remained, but the voice was hoarse; there was some pain at the larynx, and other indications of chronic inflammation, for which leeches, a seton, &c., were prescribed with little advantage. The treatment was however continued, caustic was applied to the fistula, so that by the 30th of September the sinus was closed, and the voice acquired more force.—*Rev. Medicale, Octob.* 1828.

49. *Amputation of the Neck of the Uterus.*—M. Lisfranc announced to the Academy of Surgery, on the 11th of September, that the females lately operated on, and who had been reported to the Academy, had recovered with the exception of one patient, who died of peritonitis, an accident which he had not before met with after this operation. He recapitulated the number of his operations; they amounted to forty-three, of which he had lost but four.—*Rev. Medical. Octob.* 1828.

50. *Wound of the Heart.*—Dr Leonard Randall of Tennessee relates the case of a negro boy, shot in the breast with a common fowling piece, loaded with shot, who lived for two months and six days after the accident. On dissection it was found that the right lung was nearly destroyed, the left lung was much inflamed, and several shot were found in its substance, the pericardium was partially adherent and part was absorbed, while the heart was enlarged, partially adherent to the pericardium, and its parietes indurated. On opening the right ventricle, *three shot were found loose in its cavity.* This ventricle was greatly enlarged, and lined with a thick coat, from which there projected numerous papillæ of a dun colour, giving it the appearance of the upper surface of the tongue of an ox. Two shot were also found in the right auricle, but the internal surface was not much injured by their presence.—*Western Jour. of Med. & Phys. Sci. Oct.* 1828.

51. *Mode of arresting Hemorrhage from Leech Bites.*—Dr Ridolfo has communicated to the Medical Society of Livourne, a new method of arresting the bleeding from leech bites. In this country, difficulty has occasionally occurred, but in Europe cases are said to occur daily, in which cold water, the application of flour to facilitate the formation of a coagulum, caustic, as the nitrate of silver, calcined alum, &c. are often inefficient, and even compression in various ways will not always answer. Dr Ridolfo affirms that he has always succeeded by applying a cupping glass on the point from which the blood escapes; a very small glass being used where the bleeding is from a single bite, and a larger one when it issues from several placed near each other. Almost immediately on the application of the glass, the blood forms a clot over the bite, which suspends the hemorrhage. The glass is allowed to remain on a few minutes until the integuments become tumefied. Care should be taken in removing the cup, not to disturb the coagulum; the fluid part of the blood should alone be emptied, and the glass reapplied again and again until the hemorrhage has completely ceased.—*London Med. and Surg. Jour. Jan.* 1829.

52. *Obturateurs, or Artificial Palates.*—Mr James Snell, surgeon dentist of London, has published a work on the use and construction of obturateurs, with cases illustrating his improvements, and also numerous cases of deficiency of the lower jaw, lips, nose, &c. &c. with the most efficient means of restoring the parts artificially. Mr Snell has exhibited great professional candour as well as ingenuity and science, in publishing minute accounts, by which he has succeeded in relieving the distressing deformities to which he alludes. From a review of his work in the London Med. and Surg. Jour. for Jan. 1829, we will make a few extracts of some of his improvements. In congenital divisions of the palate, suction is often impossible, and a fine born infant pines away, unable to swallow its natural food; or should it survive, the operation of staphyloraphy affords but an uncertain means of relief.

Mr S. observes that "after constructing a variety of instruments, and adopting numerous methods but with little success, I at length found, that all the ends required might be accomplished by a very simple contrivance,—merely that a common heifer's teat should be attached to the usual shield for sucking. On one side of the teat, which is to be the upper side, sew a piece of leather sufficiently large to be introduced into the mouth without difficulty, of a length and shape suited to cover the fissure in the palate. The teat being introduced into the mouth, when the child sucks, the leather will be pressed by the tongue against the roof of the mouth, so that the fissure will be covered, and the milk will flow easily into the pharynx, without passing out at the nose. Some little judgment will of course be requisite in the adaptation of this contrivance, as in some instances very thin Indian-rubber may be used in preference to leather; but this must be left to the discernment of the medical attendant, or to the artist who has to construct the apparatus. By the use of this instrument, many children

that were wasting away from being unable to suck, have been rendered comfortable, and restored to health and strength."

The instrument which he employs when the first teeth are shed, and the second molar teeth are through the gums, to be modified by the circumstances of the case, is thus described.

"My present method of constructing it, is, with a gold plate, accurately fitted to the roof of the mouth, extending backward to the os palati, or extremity of the hard palate,—a part of the plate, about an inch in length, being carried through the fissure. To that part of the plate which answers to the nasal fossæ, are soldered two plates, meeting in the centre, and carried upwards through the fissure to the top of the remaining portion of the vomer, to which it should be exactly adapted, and made to the natural shape of the nasal palatine floor: thus the fluid of the nose will be carried directly backward into the fauces. A piece of prepared elastic gum is next attached to the posterior part of the plate, where the natural soft palate commences, extending downward on each side, as low as the remaining part of the uvula, and grooved at its lateral edges to receive the fissured portions of the velum. A moveable velum is placed in the posterior centre of the elastic gum. That these may partake of the natural movements of the parts during deglutition, a spring is affixed behind them, one end of which is fastened to the posterior and anterior surfaces of the principal plate, and the other end rests gently against the posterior face of the Indian rubber; this keeps it always in close apposition with the edges of the fissure during deglutition."

53. *Strictures of the Urethra.*—The mode of curing strictures of the urethra by confining a *large* bougie (generally of elastic gum) at the anterior part of the obstruction, is still employed with undeviating success in the wards of M. Dupuytren and M. Breschet at the Hôtel Dieu. The mere contact, accurately preserved for eight or ten days, often enables a catheter of the largest size to pass freely where the smallest bougie could not previously penetrate.—*Lond. Med. & Phys. Journ. Jan.* 1829.

54. *Chronic Disease of the Brain relieved by Trephining.*—An interesting case is related by Dr William Judkins of Ohio, in the February number of the Transylvania Journal of Medicine, of a young man 18 years of age, who from his infancy had been delicate, and whose intellect had always been exceedingly feeble and dull. In the summer of 1823, he became slightly deranged, had occasional pain in his head, fever and other symptoms of cephalic disease. He was subjected to a full antiphlogistic course of treatment, followed by the free exhibition of mercury, but with no advantage. He was now in a state of complete insensibility and much emaciated; lay with his eyes wide open: his alvine and urinary discharges were involuntary, and when his limbs were laid in any ordinary position, he would not move them for twelve or sixteen hours together. The operation of trephining was now advised and performed. No sensibility was manifested by the patient. A portion of the parietal bone being removed, the dura mater presented a slight appearance of chronic inflammation, and the brain pulsated slowly and tolerably firmly. No fluid was discharged. The flaps of the scalp were replaced, after removing a corner of one of them in order to keep up a communication with the dura mater. "I saw him," says Dr Judkins, "the next evening, and to my great satisfaction, found that a sanious fluid had escaped from the wound, I might say from the brain, and had run through, not only the pillow under his head, but also *through the bed.* His speech and the exercise of his mental faculties, which had been entirely suspended for the last six or eight weeks, began to return. From this time he slowly recovered, and has entirely regained his health and strength; and what is rather more remarkable, he is much more acute in the exercise of his mental faculties, than he ever was before the operation with the trephine."

55. *Imperforate Anus, and Subsequent Formation of an Alvo-Urinary*

Calculus.—Mr JAMES MILLER reports the case of an infant, born in 1821, without an anus, and whose rectum slightly communicated with the bladder, on whom he operated by means of a scalpel and trocar. The artificial anus executed its functions remarkably well—the sphincter ani performing its usual office; but there was great liability to contraction and obstruction. Hence the operation had to be frequently repeated, ten times before the child was eight months old, and subsequently it was often requisite. About three years ago a large calculus formed in this artificial passage, and from its size could not be extracted entire. It was broken into three pieces by means of a drill, with which it was several times perforated, and of a pair of strong polypus forceps. Each piece had to be again drilled and broken before it could be removed. All the fragments were eventually extracted. The operation lasted for two hours and three quarters. No untoward symptom supervened, and in ten days the boy was running about; the anus having contracted to its usual dimensions, the power of the sphincter being complete and some urine escaping by the anus.—*Ed. Med. and Surg. Journal, Jan.* 1829.

56. *Urinary Calculus of an extraordinary size successfully removed by the High Operation.*—In GRAEFE and WALTHER's Journal, Dr KRIMER has given an account of a stone patient on whom the lateral operation was performed for a calculus in the bladder, but the stone was too large for extraction, and could not be broken. The next day the high operation was executed, and an enormous stone was removed with the fingers. It weighed 23 ounces, (?) measured 3 inches and 8 lines in length, 3 inches and half a line in breadth, and 2 inches and 1 line in thickness, being of the form of a heart. The fourth day after the operation an hiccough came on; it remained for five days, but at last yielded to musk united with quinine. No antiphlogistic measures were employed; but bark, with cardamon and the acid aromatic tincture, were prescribed. A good suppuration was established, and the patient was recovering at the time of the report.—*Bulletin Univers., Sept.* 1828.

57. *Unusual Variety of Aneurism.*—Professor LALLEMAND, of Montpellier, has related a case of aneurism, probably of the vessels of the tibia, of which the following is a summary:—A man, 45 years of age, had a tumour of the right knee; the skin was tense, and of a rose colour; the leg was flexed on the thigh, and emaciated. The knee was a third larger than its fellow, covered with varicose veins, which increased in size when the patient held his breath, or when the limb was depending. The superior extremity of the tibia was double its natural size; two tumours existed on each side of the tendon of the patella, the internal had the form and size of the half of a turkey's egg, and pulsated very distinctly; the external tumour also pulsated, but was smaller, about half the size of a walnut. Pressure on the crural artery arrested the pulsations. On the internal side of the ligament of the patella, there was a point more elevated, and which pulsated more distinctly. By pressing perpendicularly on this point, almost the whole of the first phalanx of the finger could be buried in the swelling, and a circular orifice, five or six lines in diameter, the circumference of which was hard and thin, could be distinctly felt. When the thumb was firmly pressed on this opening, the tumour would readily recede with a crackling noise. A similar noise was produced by compression on the external tumour. Pressure on one tumour rendered the other more prominent, and the pulsations became more superficial. From these circumstances M. LALLEMAND concluded that an aneurismal tumour was developed in the interior of the bone, and that the tendon of the patella divided it into two portions. He, therefore, secured the crural artery on the front of the thigh. In three months the patient could support himself on the leg, and walk without crutches. He eventually completely recovered, experiencing neither pain nor stiffness in the knee.

On the above case M. BRESCHET, in the Repertoire d'Anatomie et de Physiologie Pathologiques, makes several observations, and endeavours to prove by the citation of cases, that, although such cases are rare, yet that there are many re-

corded by distinguished authors, but under improper titles. He concludes "that this disease is doubtless analogous to the *erectile tumours* ('aneurisms by anastomosis,') of the soft parts, and constitutes a true aneurism of the arteries of the cellular tissue of the bones. Injections, indeed, have demonstrated that the vessels of the limb were sound, while the arteries proper to the substance of the bones, (chiefly at the extremities of the long bones, where they are most numerous,) are more dilated than in their natural state, and that they open by numerous orifices into the aneurismal pouch, situated in the centre of the bone. A coagulum forms, occupying the place of the cellular and spongy tissue of the bone, which has been gradually destroyed; or there exist numerous small cavities, each communicating with an arterial branch. The pulsations are dependent on the systole and dyastole of the small arteries, going to the diseased part of the bone. The same phenomenon is observed in the erectile tumours of the lips, of the globe of the eye, of the concha of the ear, &c. A ligature on the main artery arrests these pulsations, and will cure the disease, another proof of the aneurismal character of this kind of tumour."

According to M. BRESCHET, the disease may be confounded with osteo-sarcoma, fungus hæmatodes, inflammation of the proper tissue of the bones, inflammation of the veins of those organs, and, finally, inflammation of the veins which surround the bones, and which cause erosion, caries of these organs, and the formation of fungous tumours of the periosteum.—*Bulletin Universel, Sep.* 1828.

58. *Aneurism of the Arteria Meningea Media.*—In GRAEFE's Journal is recorded a very unusual case of aneurism in a peasant of strong constitution, who, two years previously to his consulting a surgeon, had received a blow on the left temple. A hard, round, and moveable tumour, of the size of a walnut, was gradually formed, accompanied by pain in the head. Dr KRIMER advised the attending surgeon to remove it, on the supposition of its being an encysted tumour. The tumour was found to be covered by the temporal fascia and muscle. On dividing the muscle, the tumour was found attached to the periosteum by a peduncle of the thickness of a quill. The operator, believing this to be merely the root of the tumour, divided it close to the bone; a profuse arterial hemorrhage immediately succeeded, so that a pound and a half of blood was lost before a check to the discharge could be given. The wound was plugged, and pressure employed, but in vain; the patient died in two hours. A proper examination after death was not allowed; Dr KRIMER however broke away portions of the cranium, and found an aneurismal sac, at the union of the temporal and parietal bones, having a direct communication with the middle meningeal artery. This vessel was found to have acquired the thickness of the finger; the pia mater (arachnoid?), covered by an exudation, was strongly adherent to the dura mater; the brain was apparently healthy; an ounce and a half of blood was extravasated in the cranial cavity. The bone surrounding the aperture was pliant, and only a third of a line in thickness.—*London Med. & Surg. Jour. Nov.* 1828.

VII. MIDWIFERY.

59. *Extra-uterine Abdominal Pregnancy.*—A female, 77 years of age, who had been for many years in a state of fatuity, died in the year 1821, at the hospital of Salpêtriere. The body was examined, in the presence of M. ESQUIROL, by one of the pupils, who discovered, in the cavity of the pelvis, a body which was easily removed, as it was merely adherent, by some cellular membrane, to the mesentery and a fold of the small intestine. The peritoneum, the uterus, and all the viscera of the abdomen were unaltered from their natural condition. The tumour was easily recognized as a fœtal skeleton; it was about two inches in

length, and divided into two very unequal portions by a kind of neck, the larger part forming the cranium of the fœtus, the smaller the trunk. A minute description of the fœtus is given, to which the curious may refer; we will only mention that the cranium was disproportionately developed, that all its bones could be readily distinguished, although the fontanelles had disappeared, and the sutures were united.

The reporter, M. MITIVIE, considers the case remarkable, not only from the above mentioned circumstances, but also from its being found in a female aged 77 years, without having been apparently injurious. From its presence in the cavity of the peritoneum, he has no doubt that it was the product of *an extra uterine abdominal pregnancy.—Arch. General. Oct.* 1829.

60. *Causes of Puerperal Peritonitis.*—M. DUGES, Professor at Montpellier, has made some observations on the causes of peritonitis among puerperal females. We shall extract some facts from a short analysis of the memoir, in the *Jour. General.* for October, 1828.

Cases of puerperal peritonitis appear at different seasons of the year, and are sufficiently numerous to constitute true epidemics. They are rarely sporadic. They are manifested most frequently in cold and moist weather, and hence generally occur in January and February, in October and November. The disease does not appear in those months where there is dry heat or dry cold. A cold, moist atmosphere is, however, not alone sufficient for the occurrence of puerperal peritonitis; for this, as well as for other epidemics, we must admit *an occult cause*, connected, no doubt, with atmospheric influences; because these influences may exist without any epidemic being the consequence.

Errors in diet operate merely as exciting causes of puerperal peritonitis. This disease is more frequent and severe among females who have suffered from disease during gestation, or who have been exhausted by misery and want.

What connection is there between this inflammation and the suppression of the milk, or of the lochiæ, and how far should it be considered as the result of a metastasis from the mammæ? It results from the facts examined, that ordinarily the suppression of the milk, or the lochiæ, occurs after the invasion of the disease, and consequently is the effect, and not the cause, of the disease. In many cases, also, even of great intensity, there is no suppression of either of these discharges. Of 89 cases, the lochiæ were suppressed at the beginning of the inflammation in 25; at the 10th to the 18th day in 27; and in 37 cases the lochiæ were not suppressed, and have sometimes been augmented. Of 89 cases, there was a suppression of milk before the occurrence of the disease in 20; in 62 the secretion was only during the continuance of the disease; and, finally, in 7 females, the mammary secretion continued in spite of the peritonitis.

In answer to the question, whether primiparous females are more liable to peritonitis than those who have previously borne children, M. DUGES appeals to facts. Of a given number of women with puerperal peritonitis, three-fifths were primiparous.

Of 456 accouchemens, followed by puerperal peritonitis, 6 were cases of twins, and of these 3 of the patients were ill before their confinement.

As to the duration of the labour, it lasted more than eight hours among the greater number of those attacked by peritonitis: and of 456 cases, 9 occurred where the child was born dead, and in a putrescent state, and 32 after the labour was artificially terminated. In the greater number of cases hemorrhage had supervened after parturition. We must regard, therefore, as predisponent causes of peritonitis puerperalis, all the manipulations which become necessary in cases of hemorrhage, and especially the introduction of the hand, injections into the uterus, the use of the tampon, &c.

61. *Cases of Midwifery.*—In a healthy English country town, of 2510 cases of midwifery, there were 4 arm presentations, or 1 in 600; 8 in which turning was required, or 1 in 300; 6 in which the forceps were employed, or 1 in 400; 3 cases of embryotomy, or 1 in 800; 6 cases of puerperal convulsions, or 1 in

400; 2 cases were fatal.—*Med. Gazette. Lond. Med. and Surg. Journal. Jan.* 1829.

62. *Uterine Hemorrhage.*—In the August number of the West. Journal of the Medical and Physical Sciences, Dr DRAKE, the editor, has published some practical remarks on the management of uterine hemorrhage. To these, although not generally novel, some additional attention is demanded, as Dr D. has never been so unfortunate as to lose a patient from uterine bleeding.

I. *Prevention.*—1. Venesection is important as a preventive measure whenever the patient is of a sanguine temperament, and of a full habit: in other cases the lancet is injurious, and may produce abortion. 2. Purging is a prophylactic by diminishing the force of the circulation; and by promoting secretion and the peristaltic motion of the bowels it lessens uterine determination. 3. A most powerful means of prevention is a liberal administration of opium and laudanum, after the bleeding and purging. "The quantity given *should be great enough to exert a crippling influence on the circulatory system.*" 4. A recumbent posture, a hard bed, and warm feet, are all requisite, but should not be relied on. Perfect rest, physical and moral quiet, are essential immediately after delivery.

II. *Suppression.*—1. Venesection is here improper, except in the earliest stages, as the vigour of the circulation is soon reduced by the discharge of blood. 2. *Opium*, however, is adapted to every stage of this profluvium. Large quantities are often required; two or three grains of solid opium, or a large teaspoonful of strong laudanum may be given at a single dose, and repeated once or twice, according to circumstances. Dr D. is not convinced that the addition of the acetate of lead gives any greater efficiency to the opium. 3. The abdominal bandage is exceedingly important; it should be broad and firm, and passed over the iliac, hypogastric and umbilical regions. The compression thus exercised maintains the excitement of the heart and brain, and often prevents syncope: it prevents or restrains hemorrhage: and it facilitates the separation and discharge of the placenta. "To its influence I ascribe the fact, that I have never yet, in my own practice, been obliged to introduce my hand into the uterus for the purpose of separating the placenta from its attachment." 4. Cool air and cold applications are useful, but too much reliance should not be placed on them, especially when the system is much reduced, as then they would be injurious. 5. The tampon will often produce the most salutary effects. Dr D. would recommend it even in hemorrhage, after parturition; for, although an internal hemorrhage might continue, when the external discharge is prevented, yet the presence of the tampon, instead of aggravating the bleeding, would rather facilitate its cure by promoting the formation of coagula. It should, of course, not be solely relied on, but be assisted by all the usual methods for lessening uterine hemorrhage. 6. Internal and external stimuli are of the utmost importance when the powers of the system are exhausted. Dr D. recommends, in very high terms, the external use of mustard, as arresting the declining powers of the system, and restraining the hemorrhage. "I feel quite certain that I have saved the lives of several patients by a resort to sinapisms." They are to be applied to the epigastric, and also to the extremities.

III. *Restoration.*—The recovery after copious uterine hemorrhage is generally tedious, but may often be facilitated by a judicious course of treatment adapted to the varying condition of the patient. Dr D.'s directions are judicious, but perhaps need not now be repeated. He cautions against the abuse of tonics, stimulants, and nourishing diet, and also against officiousness on the part of the physician. "There is a time to withhold medicines as well as a time to give them."

63. *Labour retarded by a preternatural Septum in the Vagina.*—Professor RICHARDSON, of the Transylvania University, relates the case of a female in labour with her third child, in whom delivery was prevented by a preternatural septum in the vagina. After a careful examination, the head was found presenting and pressing against the new membrane, which however yielded very little

to vigorous uterine contractions. A small orifice was eventually discovered in the centre of the septum, through which the liquor amnii had been discharged. Dr R. divided this septum by making a small incision with a probe pointed bistoury, and then enlarging the opening with the finger towards the rectum and pubis. Labour advanced rapidly, although some resistance was still made by the lips of the septum. Mother and child did well, although the latter was born in a state of asphyxia. From the history given by the patient, there was no satisfactory explanation of the occurrence of this preternatural membrane. Her second labour, although tedious and painful, was not followed by any bad consequences, and she was not conscious of having ulcerations or any other disease of the vagina.—*Trans. Jour. of Med. for Feb.* 1829.

64. *Premature Labour, Child surviving.*—In the London Med. & Surg. Jour. for Nov. 1828, Mr J. J. Cribb relates the case of Mrs R. aged forty years, the mother of several children, who was taken in labour November 2d, 1827. Her last menstrual period was on the 15th of April, so that she could not be advanced more than twenty-eight or twenty-nine weeks. The labour continued, *and the ovum was expelled entire*, the membranes not having been ruptured but still enclosing the fœtus and liquor amnii. On breaking them the child was found living and perfectly formed. It was able to take the breast in a day or two. The child at six weeks old weighed *two pounds and two ounces;* at ten months its weight was twelve pounds. Although "very weakly," it is able to stand when leaning against a chair, and its health is not bad.—*Cambridge, Sept.* 10, 1828.

65. *Table of Labours.*—Professor Naegele reports, that from the 1st Jan. 1825 to the 31st December 1826, there occurred at the Clinique at Heidelberg 412 labours, of which 6 were twin cases, and 3 abortions; not considering these 3 last, there were 415 born; 199 boys and 216 girls. There were 398 head presentations, 15 breech or feet presentations; one child presented an arm and one a shoulder.

Of the head presentations,—394 presented the cranium, (of which 378 were natural), and 4 the face. In 16 cases the position was not accurately determined. The cranium presented, in 253 cases, the right parietal (as the part most advanced), the posterior fontanelle being turned more or less to the left and anterior part of the pelvis; and in 125 cases, the left parietal, the posterior fontanelle being in a direction opposed to the former. The ordinary turns of the head occurred in all these cases, except one, in which the left frontal appeared at the outlet of the pelvis, and the face was turned up behind the pubis. The child being small, delivery was prompt. In the four face presentations, the forehead was on the left side in 2 cases, and on the right in the remaining 2.

Of the 418 births, 319 were finished by the natural powers, and 19 with artificial assistance, viz: 15 by the application of the forceps, 3 by turning, and 1 by perforating the cranium.

Of the 412 mothers, 410 left the clinic in good health; two died: 387 children were born alive, and 31 dead; of these last, 16 were dead before the commencement of labour. There were 19 premature labours, including the three abortions. The labours with the face presenting were fortunate. The children lived with one exception, owing to a prolapsus of the cord. The breech cases gave 11 living children, 1 was born with some signs of life, and 3 were dead; 2 of which manifested signs of putrefaction, and the third was premature. In the forceps cases, all the mothers and 13 children survived; 2 children were lost by the prolapsus of the cord. Turning was indicated in 2 cases by oblique or transverse positions of the fœtus, with presentation of the shoulder or arm; the infants were dead. In the third case, turning was required for a prolapsus of the cord; the infant was born in a state of asphyxia but was soon recovered. Perforation of the head was made where the antero-posterior diameter was only 3 inches. Labour had lasted several days. Rupture of the uterus occurred, the infant

which was dead, was drawn down by the feet without difficulty until the head presented, which was then opened and the child was extracted. The mother died from abdominal inflammation.

Premature labour was excited in one case of narrow pelvis. The infant was born alive and the mother did well. There were 4 cases of uterine hemorrhage; 3 before the exclusion of the placenta, and one 24 hours after. They were successfully treated by the tincture of cinnamon given internally, and by cold affusions on the abdomen. In one case, the placenta was artificially separated. *Bulletin Univer. Sep.* 1828.

66. *Premature labour artificially excited.*—The Bulletin Univ. for Sep. contains a notice of Professor D'Outrepont's opinions on the propriety of exciting labour artificially, before the full period. The Professor believes that nature often indicates the propriety of exciting premature labour, and for this reason, but especially because experience confirms the propriety of the practice, he would recommend this measure when the life of the mother is endangered by severe diseases, such as threatening convulsions, continual vomitings, and threatened suffocation from goitre or other impediments to respiration. He cites cases illustrative of the opinion, that such dangers are often avoided by delivery.

To this practice, when conscientiously and judiciously resorted to, for the safety of the mother or child, we can perceive no valid objection, but there is no principle more liable to be abused, and which demands more judgment for its proper exercise.

67. *Labour opposed by a Calculus in the Bladder.*—Mr James Threalfall, of Liverpool, reports the case of a female, in labour with her fourth child, in whom delivery was resisted by a large tumour on one side of the pelvis near the sacro-sciatic notch. This tumour could not be pushed up out of the cavity of the pelvis, and as there was not room for the head to pass, embryotomy became necessary. The operation was delayed until symptoms of exhaustion appeared. The head being opened, delivery was soon effected, but the patient continued to sink and died. Subsequent examination proved that the tumour was formed by a large calculus in the bladder.—*Ed. Med. and Surg. Journ. Jan.* 1829.

68. *Twins from a Uterus Bicornis.*—A case of this kind is related in Rust's Magazin f. d. Gesammte Heilkunde, 1828, by Dr Gabert. The uterus was divided into two unequal parts by a partition one quarter of an inch in thickness. The right cavity was the largest, and the child together with the placenta contained in it exceeded also in size that of the left cavity; in the latter the child presented in such a manner as to require turning, which operation was rendered very difficult in consequence of the smallness of the cavity in which it was contained,—the child was dead. That of the right side was delivered by the forceps; it was living and perfectly healthy.

69. *Ossification in the Placenta.*—In the Vierteljährigen Sanitätsberichten, (Hufeland and Osann's Journal, June 1828,) Dr Katerbau states, that in the month of Feb. 1828, a woman was delivered of a healthy female child; she had complained many weeks previous to her confinement of a pain in the womb, and a feeling as if something within it pricked and cut her: for these sensations many remedies were administered without effect. After the tolerably speedy birth of the child, the placenta did not come away, and the midwife supposing it to adhere proceeded to loosen it, which was easily done. During the operation the patient complained of violent pricking within the uterus.

Upon inspecting the placenta, remarks the doctor, I found that throughout its substance were interspersed numerous spicula of bone, the whole of which resembled the points of ossification in a fœtal skull; they were firmly united to the

integuments of the placenta, and in some parts, especially over the insertion of the cord, were arranged together so as to present somewhat of an arborescent appearance.

VIII. CHEMISTRY AND PHARMACY.

70. *Method of rendering Platinum Malleable, by* Wm Hyde Wollaston, M.D. F.R.S.—A paper on this subject by Dr Wollaston was read before the Royal Society of London on the 20th of November last. The method of proceeding recommended is as follows: treat the native grains with aqua regia, sufficiently diluted to avoid the solution of the iridium. Continue the digestion for three or four days in a heat, gradually raised, and allow the fine pulverulent ore of iridium to subside completely before adding the muriate of ammonia. Wash and press the ammoniacal precipitate, and heat it with the utmost caution, so as to expel the muriate of ammonia, producing at the same time as little cohesion as possible among the particles of the metal. Reduce the ignited precipitate to powder, first by rubbing it between the hands, and then by grinding the coarse parts in a wooden mortar with a wooden pestle. Wood is proper for this purpose, because any harder substance would, by producing burnished surfaces, render the metallic particles incapable of being welded. The whole is then washed in clean water, whereby the earthy impurities are got rid of; they rising to the surface by reason of their comparative levity. The gray platinum precipitate is now in the form of a uniform mud or pulp, and is ready for welding; which is effected by compression in a mould, formed of a brass barrel, six inches and a half long, and turned somewhat tapering within, so as to facilitate the extraction of the ingot when formed. "The platinum is first subjected to partial compression by the hand with a wooden plug, so as to expel the greater part of the water. It is then placed horizontally in an iron press, constructed so as to give great mechanical advantage to the power applied to produce compression. The cake of platinum is then to be heated to redness in a charcoal fire, in order to drive off all the remaining moisture; afterwards subjected to the most intense heat of a wind furnace; and lastly, struck, with certain precautions, while hot, with a heavy hammer, so as effectually to close the metal. The ingot thus obtained may, like that of any other metal, be reduced by the processes of heating and forging to any other form that may be required."

"The perfection of the above method of giving complete malleability to platinum is proved by comparing the specific gravity of a fine wire of that metal, obtained by this process, which is found to be 21.5, with that of a similar wire drawn from a button which had been completely fused by the late Dr Clarke, with an oxy-hydrogen blow-pipe, and which the author ascertained was only 21.16. A further proof of the excellence of the method employed by the author, is derived from the great tenacity of the platinum thus obtained, as determined by a comparison of the weights required to break wires made of this metal so prepared, and similar wire of gold and of iron. These weights he found to be in the proportion of the numbers 590, 500, and 600, respectively."—*Phil. Mag. and Ann. of Phil. Jan.* 1829.

71. *New Metal, Pluranium.*—A new metal under this name has been discovered by M. Osann, in the native platinum of Russia. It would seem that Berzelius, to whom specimens of the metal were sent, confirms the discovery of M. Osann; for he says, "According to all the trials I have made to convince myself, you have really found a new substance; for the small crystals which sublime cannot be confounded with any other known body," &c.—*Journ. Royal Institution, Oct. to Dec.* 1828, *from Annalen der Physik*, 1828.

In the "Journ. de Chimie Médicale" for Nov. 1828, there is an account of the discovery of two additional metals by M. Osann, in the Russian platinum.

72. *Glucinum and Yttrium obtained in a separate state.*—Dr F. WOHLER has succeeded in completely isolating the radicals of glucina and yttria. He obtained them by pursuing the same process that had been successful in obtaining aluminum; namely, the decomposition of the chloride, by means of potassium.

Method for Glucinum. Mix pure glucina intimately with charcoal, and heat it to redness, exposed to a current of dry chlorine. A chloride of glucinum is thus obtained, sublimed in brilliant white needles, one part of which presents a compact texture and the remainder a solid fused mass. Place the chloride, thus formed, in layers, in a platinum crucible, along with flattened pieces of potassium. Fix the cover on tightly by means of a wire, and heat with a spirit lamp. The reduction immediately takes place, and with so great an extrication of heat, that the crucible becomes of a white-red heat. Allow the crucible to cool completely, take off the cover, and empty its contents into a large glass filled with water. The fused gray mass, consisting of the chlorides of potassium and glucinum, dissolves, while the glucinum remains behind, in the form of a grayish-black powder, which is to be thrown upon a filter, washed, and dried.

Properties. Glucinum is in the form of a dark gray powder, resembling in all respects a metal precipitated in the pulverulent form. Under the burnisher, it assumes a dull metallic lustre. Its fusing point must be very high, as its particles are found to have experienced no agglutination, as a consequence of the violent heat under which they are reduced. It undergoes no change either in air, or when exposed to boiling water. When heated to redness on platinum foil, it takes fire, and burns with great brilliancy, and glucina is regenerated. In oxygen it burns with extraordinary brilliancy; and yet the glucina formed gives no indications of fusion. It burns also in chlorine, and in the vapours of bromine and iodine.

Method for Yttrium. This metal was obtained from the chloride by the action of potassium, as in the case of glucinum. During its reduction, as happened in respect to glucinum, a great extrication of heat took place.

Properties. As first obtained from the cold mass by the action of water, which dissolves every thing but the metal, it presented the appearance of small scales, exhibiting a perfect metallic lustre. After being washed and dried, it appeared under the form of a shining powder, of a grayish-black colour, and possessing a perfect metallic lustre. By reason of its metallic and crystalline appearance, it is readily distinguished from glucinum and aluminum. Under the burnisher it gives a true metallic trace. It is very far, however, from having a metallic lustre comparable to that of aluminum, which is remarkably white and metallic. Aluminum appears to be a ductile metal, while yttrium, on the contrary, is brittle.

Yttrium, at ordinary temperatures, is not oxidized either by air or water. Heated to redness in the open air, it takes fire, and burns with a dazzling splendour, regenerating yttria. In pure oxygen its combustion is as brilliant as it is possible to conceive any combustion to be. The yttria formed in the latter case gives some indications of fusion.—*Annales de Chimie, Sep.* 1828.

73. *Artificial Production of Diamonds, by* M. GANNAL.—Introduce several sticks of phosphorus into a small matrass containing the bisulphuret of carbon, covered with a layer of water. The phosphorus will melt and sink to the bottom of the matrass. Mix the ingredients together, and by their reaction, phosphuret of sulphur will be formed, and a white powder generated which reflects the prismatic colours, and which appears to consist of a multitude of minute crystals. Upon repeating the experiment, and giving more time for the crystals to form, a few were obtained of the size of a millet seed. These were submitted to M. CHAMPIGNY, a jeweller, who examined them carefully, and satisfied himself, 1st, that they scratched steel; 2d, that they were of a pure water; and 3d, that they caused a most brilliant reflection of light. In a word, he pronounced them to be true diamond sparks. *Journ. de Chimie Med. Dec.* 1828.

74. *Amylic Acid, a new compound of Carbon and Oxygen.*—This acid, which was discovered by M. TUNNERMANN, is prepared as follows: Mix equal parts of starch and black oxide of manganese; put the mixture into a retort, which must be only one-fourth full, and add a third equal part of water, to moisten the mass equally. Connect with the retort a receiver with a safety tube, and apply heat until the mixture is brought nearly to the boiling point, three parts of muriatic acid being at the same time added by degrees through a feeding tube. Much effervescence occurs, and when the matter in the body of the retort is nearly dry, the distillation is to be stopped, in order to prevent any impurities from passing over. The distilled product is impure amylic acid, having a strong odour of bitter almonds, though containing no hydrocyanic acid. To purify it from muriatic acid, saturate with carbonate of lime, filter, and evaporate until a pellicle forms; on cooling, amylate of lime will separate in crystals. To purify them from muriatic acid, re-crystallize until their solution does not precipitate nitrate of silver. Mix one hundred parts of the pure amylate of lime with seventy-three of sulphuric acid, diluted with twice its weight of water, and distil nearly to dryness. The distilled product will be an aqueous solution of the acid in question.

Properties. Amylic acid is sour, and readily evaporates by heat, emitting a sharp odour resembling that of hydrocyanic acid. It combines with bases, forming neutral salts, most of which are deliquescent, and *all* readily soluble. Some of its salts contain water of crystallization; others none. The dry salts are decomposed by heat into *carbonates* and *charcoal.* It dissolves carbonate of lime with effervescence. Composition, 2.5 carbon and 3 oxygen, equivalent to 10 atoms of carbon, and 9 atoms of oxygen.—*Journ. Royal Inst., Oct. to Dec.* 1828.

75. *New Pyrophorus, by* GAY-LUSSAC.—It is formed by strongly calcining together in a close vessel 27.3 grains of sulphate of potassa, and 15 grains of charcoal. It is very inflammable even in dry air. It appears to owe its greater inflammability, to its state of more minute division, to the absence of any inert earthy matter, and probably to the less amount of sulphur which it contains.

76. *Attack of* BERZELIUS *on Dr* THOMSON'S "*First Principles of Chemistry.*"—In the Philosophical Magazine for December 1828, some translations are given from a German version of BERZELIUS'S Remarks on Dr THOMSON'S work. A part of these we give below, by which our readers will perceive that BERZELIUS treats the British chemist with the utmost severity, and accuses him of scientific dishonesty. We hope, for the honour of human nature, that Dr THOMSON may be able successfully to repel the insulting charges which have been brought against him by the illustrious Swedish chemist.

"This work belongs to those few productions from which science will derive no advantage whatever. Much of the experimental part, even of the fundamental experiments, appears to have been made at the writing desk; and the greatest civility which his contemporaries can show its author, is to forget that it was ever published."

In another place BERZELIUS says, "The character of this work of THOMSON'S ought to exclude it from notice here; but it appears to me, that love for the real progress of science makes it imperative to detect quackery, and expose it to the judgment of every one as it merits."

In prosecuting our critical labours we took occasion, several years ago, to give an extended analysis of the work of Dr THOMSON above alluded to by BERZELIUS. (See Vol. I. p. 349 of this Journal, April 1826.) We did not hesitate to criticise the reasoning part of his performance freely, but had no opportunity of testing the experimental results. We thought we saw evidence of a prepossession of the author's mind with Dr PROUT'S law of even multiples, and a disposition, perhaps involuntary, to make the facts bend to that hypothesis; but we did not think then, and cannot bring ourselves to believe now, that Dr THOM-

son invented statements to suit his purposes, and palmed them off on the public as the result of experiment.

77. *Tubes produced by Lightning.*—M. Arago presented to the French Academy of Sciences, on the 3d of March, 1828, several tubes of vitrified sand, of remarkable dimensions, produced by lightning. One of them extended 19 feet in length!

78. *Caoutchouc Bags.*—On the 17th of May last, M. Chevallier communicated to the Section of Pharmacy, an account of a self-acting blowpipe, invented in England, formed of a bag of caoutchouc, by means of which even detonating mixtures of gases may be employed. M. Planche presented a forcing pump, adapted to the purpose of filling these bags: he stated that caoutchouc might be advantageously employed as a substitute for parchment and mastic in stopping bottles, and as a recipient in which to conduct the disengagement of carbonic acid from the carbonates by means of acids.—*Nouv. Bib. Méd., July* 1828.

79. *Passage of Iodine into the Blood.*—M. Bennerscheidt has published in the *Archiv. des Apotheker.* a notice of his examination of the blood of an individual who had for a long time employed frictions with iodine ointment. The serum gave no indication of the presence of the iodine, but it was detected in the crassamentum by a slight blue tinge which it communicated to starch.—*Journ. de Chimie Médicale, Aug.* 1828.

80. *Analysis of Small-Pox Virus.*—M. Tremoliere, an apothecary of Marseilles, has analysed this virus, pure, and as modified by petechiæ, and given the following results:

Pure virus. Yellow; turbid; depositing by rest a grayish-white precipitate. Taste, nauseous and animal (sui generis). Odour, faint and disagreeable. Consistence, oleaginous. Sp. gr. 1.031. It contained, 1st, Fibrin; 2d, Mucus; 3d, Hydrochlorate of soda (common salt); 4th, Sulphate of potassa; 5th, Phosphate of lime; 6th, Water.

Virus modified by petechiæ. As obtained before death, odour faint and very disagreeable; three hours after death, smell almost insupportable. It was thinner than the pure virus, and had much resemblance to sanious pus. It consisted of, 1st, Fibrin; 2d, Mucus; 3d, Hydrochlorate of soda; 4th, Hydrocyanate of soda; 5th, Sulphate of potassa; 6th, Phosphate of lime; 7th, Water.

M. Lassaigne remarks on this latter analysis, that if the reagents employed by M. Tremoliere have not led him into error, the detection of hydrocyanate of soda must be esteemed a highly curious fact; as it is the first instance of a salt of this kind being detected in the animal fluids.—*Journal de Chimie Médicale.*

81. *Chemical Nature of False Membranes.*—These membranes, according to the chemical analysis of M. Lassaigne, result from the organization of a fibrinous matter, like that contained in the blood, and are not of an albuminous nature, as heretofore supposed. This statement has been confirmed by M. Laugier.

In the Journal de Chimie Medicale for October 1828, M. Lassaigne has taken occasion to report the analysis of a membrane, analogous to the false membranes, which was formed on the arachnoid of the horse. It consisted almost entirely of fibrin, mixed with a small quantity of albumen and fatty matter. So that this membrane follows, in chemical composition, the analogy of similar morbid products, formed in other parts of the animal economy.

82. *Pineal Concretions in the Horse.*—M. Lassaigne characterizes these concretions as follows:—Micaceous, and soft to the touch. Treated with boil-

ing alcohol, a portion dissolves, which precipitates on cooling in light and pearly white scales. This matter, being fusible above 212°, inalterable by a solution of caustic potassa, and assuming an orange-red colour by concentrated sulphuric acid, may be regarded as cholesterin. The portion, insoluble in the alcohol, proved to consist of albuminous animal matter, and sub-phosphate of lime. The presence of cholesterin in these concretions, M. L. remarks, is not a new fact. He has had occasion, as well as other chemists, to detect its presence in morbid productions, in which it could not have been derived from the bile. Thus, he has detected it in the substance of a sarcocele, and M. BARRUEL has demonstrated its presence in a liquid extracted from a hydrocele.

It would, therefore, appear, that cholesterin is not merely a healthy animal principle, forming a constituent of the bile, but also, in certain cases, a morbid product.—*Journal de Chimie Médicale, Oct.* 1828.

83. [The following article was handed to us too late for insertion in our original department, where, from its value, it would have been deserving of a place. The author is already advantageously known to the scientific public for his successful chemical researches on opium.—ED.]

Practical Observations on the Preparation of Morphia, &c. by EDWARD STAPLES, M.D.—Since the method of precipitating crystalline morphia, from its solution in alcohol and acetic acid combined, was published, (vide Vol. V. page 474 of this Journal), improvements have been introduced into the process, which simplify the formula, and greatly enlarge the product. The following experiments will best illustrate them.

1000 grains of very pure opium, perfectly dry, and in small pieces, were digested in eight ounces of distilled water, for six days, with occasional agitation, in a temperature of about 70° Fah. It was then thrown upon a coarse paper filter, previously moistened with pure water. Six ounces and a half of highly coloured liquor, of specific gravity 1043, were obtained. To this solution, six ounces and a half of alcohol of 35 Beaumé, were added. The temperature rose eight degrees, and the transparency was unaffected. Immediately after the addition of the alcohol to the watery solution, two drachms of aqua ammoniæ of specific gravity 950, mixed with six drachms of alcohol of 35, were thrown in. The liquor immediately became rather darker, no other visible change taking place; but in about half an hour, crystals began to form abundantly. Shortly after this, two drachms more of aqua ammoniæ, similarly combined with alcohol, were thrown in, and the whole left at rest twenty-four hours; when one hundred and thirty-eight grains of crystals were collected upon a filter. These crystals, after having been washed with a small portion of water, were of a light salmon colour, and when thrown into nitric acid, became immediately of a light red colour.

The dregs of the opium, remaining on the filter, were washed with four ounces of distilled water, the water being several times returned upon the filter. The liquid obtained had the specific gravity of 1013. This was treated in all respects as that obtained by the first filtration, except that only half the relative quantity of alcohol was used to suspend the colouring matter, and a smaller quantity of ammonia was employed to precipitate the crystals. The product of this precipitation was twenty grains, of a colour rather lighter than that first obtained, but in every other respect similar.

The dregs of opium still remaining on the filter were now digested in eight ounces of alcohol of 35, for three days, in a temperature about 70°. After filtration, the highly coloured tincture was concentrated by distillation to one-fourth, and the resin which it abundantly contained, separated by the addition of six ounces of distilled water. The slightly alcoholic transparent liquor, thus obtained, when separated from the brownish resin precipitated by the water, was reduced by evaporation to one-half. When cold, an equal quantity of alcohol was added, to suspend the colouring matter, and ammonia united with alcohol, then thrown in as a precipitant. In twenty-four hours, about twenty grains of crystals were collected upon a filter, and washed with a small quantity of water.

These were much lighter in colour than the first product, and not similarly affected by nitric acid.

Opium of the same quality as that just alluded to, afforded results nearly the same in amount, when the same quantity was digested in ten ounces of water, acidulated with eighty grains of citric or tartaric acid, for the same length of time. The filtered acid solutions were combined with an equal quantity of alcohol, and the acid saturated by ammoniated alcohol. The crystals thus obtained were lighter coloured than when water alone was used. Ten ounces of common distilled vinegar, to 1000 grains of opium, afforded the same result as when tartaric or citric acid was used.

In the treatment of opium* of medium quality (in which class may be ranked nearly all that is generally found in commerce,) with the intention of obtaining morphia, vegetable† acids, in proportions corresponding with those just indicated, will be found to answer better than water alone, the latter being applicable only to the purest kind of opium, upon which it exerts a solvent power, superior to any other menstruum. Opium of a grade still inferior, when adulterated with resinous matter, or substances very soluble in water or diluted vegetable acids, may be advantageously treated in the following manner:—Digest one part of opium in two parts of water for three days, then add six parts of alcohol of 35, and digest, with occasional agitation, three days more. Separate the tincture by the filter, and wash the dregs with two ounces of alcohol, several times returned on the filter. Reduce the tincture thus obtained to one-fourth by distillation in a water-bath. Throw the concentrated tincture, while warm, into six parts of distilled vinegar, or a weak solution of citric acid. Then separate the dark coloured resin which is copiously precipitated, combine the clear liquor with six parts of alcohol of 35, and employ ammonia in combination with alcohol as a precipitant. Good products will thus be obtained from opium, which, in consequence of impurities, will be subject to great waste when otherwise treated. If, instead of separating the resin from the tincture, as directed above, ammonia be thrown into it, the precipitate obtained will be highly coloured, and consist one-half of impurities.

The colouring matter associated with morphia in opium, can be more effectually suspended by alcohol, than it can be removed after precipitation, even supposing it experiences no change in its solubility from the action of concentrated alkalies. But its solubility is certainly lessened by their action; and this circumstance may be a source of great loss, when conducting the purification of coloured precipitates by diluted alcohol, as directed in other formulæ. In the several menstrua, above alluded to, the presence of colour matter, in consequence of its not being acted upon by ammonia in an attenuated form, insures the more perfect precipitation of the morphia. The precipitates obtained by either of the above processes may be rendered pure and white by solution in boiling diluted alcohol, from which the morphia crystallizes by cooling; or by solution in diluted sulphuric acid, combined with diluted alcohol, from which, after perfect solution has been promoted by heat, a crystalline precipitate may be obtained by the cautious addition of ammonia.

Narcotine may be removed from opium by oil of turpentine. Throw into oil of turpentine, heated to 212°, one part of opium in dry powder, to sixteen parts of the oil. Sustain the temperature half an hour with occasional agitation. Filter and remove the oil of turpentine by distillation, to facilitate which alcohol must be added, when the oil is reduced to about two parts. Narcotine will crystallize in the retort. On cooling, a portion of resin will also be removed. The morphia is unaffected by the turpentine.

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* Opium of medium quality affords twelve drachms of morphia to the pound of opium (7000 grains); superior quality, over fifteen drachms.

† Sulphuric, or other strong acids, are entirely inadmissible.

Miscellaneous Articles.

UNIVERSITY OF PENNSYLVANIA.

At a Medical Commencement, held March 21st, 1829, in the Saloon of the Masonic Hall, Chestnut-street, the Degree of Doctor of Medicine was conferred upon the following gentlemen, who had passed their examinations by the Medical Faculty.

Nova Scotia.—Edward L. Brown, Causes of Malignant Epidemics.

Island of Cuba.—Joseph M. Urquiola, Menstruation.

Rhode Island.—Alexander P. Moore, Rubeola.

New York.—Gilbert S. Fowler, Puerperal Fever.

Connecticut.—Josiah Barnes, Spina Bifida. *Caleb Ticknor*, Influence of Diet, Dress, and Amusement upon Health.

Maine.—Israel B. Bradley, Cesarean Operation.

New Jersey.—Lewis Drake, Trachitis. *Charles Higbee*, Medical Electricity, Galvanism, and Magnetism. *Allison Ely Perrine*, Accidental Uterine Hæmorrhage. *Robert J. Woodruff*, Cause of Yellow Fever. *James S. Carpenter*, Hepatitis. *John H. Blackwell*, Morbid Effects of Drinking Cold Water. *Joab W. Hunt*, Dysentery.

Pennsylvania.—Richard K. H. Sims, Non-existence of Syphilitic Virus. *Samuel Maclay*, Intermittent Fever. *Robert R. Dorsey*, Efficacy of Rest in Injuries of the Knee. *Daniel Lachenour*, Ptyalism. *Martin Weaver*, Dysentery. *Hugh Meredith*, Retrocedent Gout. *Richard Maris*, Articular Affections. *Thomas Pritner*, Lead Disease. *Samuel C. Merwin*, Generation. *Esaias Kinzer*, Position in Surgical Diseases. *George Thomas*, Influence of Habit. *Henry D. Dietrich*, Hæmoptysis. *William Rinehart*, Hepatitis. *William L. Sterigere*, Angina Pectoris. *George Halberstadt*, Structure and Pathology of Mucous Membranes. *Joseph Peace*, Delirium Tremens. *James C. Kennedy*, Trachitis. *Charles Huffnagle*, Dyspepsia. *David M. Fort*, Cholera Morbus. *Diller Luther*, Caries of the Spine. *Joshua Y. Jones*, Typhus Fever. *William Irvin*, Gastritis. *John J. White*, Circulation. *John Vaughan Smith*, Gastritis. *Edward H. Glentworth*, Jaundice. *William N. Johnson*, Music in Mental Diseases. *Joseph Togno*, Endosmosis and Exosmosis. *Charles Fronefield*, Scrofula. *Henry Lippincott*, Hæmoptysis. *Joseph M. Heister*, Passions. *Charles W. Duffield*, Hæmoptysis. *Robert R. Reed*, Vital Functions and Mechanical Force. *Henry Pettit*, Hydrocephalus. *Horatio N. Morris*, Digestion. *Samuel J. Hobson*, Iodine. *George Powell*, Erysipelas. *Ralph Hammersly*, Metastasis. *Amos Pennebaker*, Respiration. *Aaron Torrence*, Caries of the Spine. *Columbus C. Conwell*, Vegetable Chemistry.

Delaware.—Samuel Murphey, Hepatitis. *Thomas F. Dale*, Diseases of the Alimentary Canal in Children. *Henry Gibbons*, Varioloid.

Maryland.—Lyttleton M. Robertson, Menstruation. *Albert R. Ober*, Diabetes.

Virginia.—Marvin R. Griswold, Dyspepsia. *Orlando Fairfax*, Acute Stage of Dysentery. *Joseph E. Cox*, Hæmoptysis. *James Milton Inge*, Gastritis. *William Baylor*, Cholera Infantum. *Cuthbert D. Barham*, Hæmoptysis. *William H. Edwards*, Cholera Infantum. *William Henry Shield*, Hepatitis.

James S. Tunstall, Gastritis. *John N. Powell*, Uterine Hæmorrhage. *Benjamin J. Harrison*, Diet in Convalescence. *William Smith*, Tic Doloureux. *Peter H. Anderson*, Typhoid Fever of Amelia. *George J. Smith*, Gastro-Enteritis. *Singleton Jones Cooke*, Mechanism and Physiology of the Human Head. *William E. Hardaway*, Gonorrhea Virulenta. *Henry D. Magill*, Hæmoptysis. *Conway Rollins Nutt*, Bronchocele. *Henry K. Jones*, Dysentery. *John G. Williamson*, Epilepsy. *William R. Smith*, Anatomy and Functions of the Skin. *Nicholas M. Sebrell*, Enteritis. *John D. Porter*, Bilious Diseases of Rappahannock.

North Carolina.—Michael D. Donnellan, Effects of cold. *Milo A. Giles*, Syphilis. *William P. Morgan*, Small Pox, and Causes of Failure in Vaccination. *Nicholas L. B. Stith*, Dysenteria. *John Wesley Potts*, Med. Topography, and Autumnal Fever of Washington, N. C. *Thomas Davis*, Dysentery.

South Carolina.—William G. Adams, Chronic Dysentery. *Solomon Etting Myers*, Dyspepsia. *Thomas Hunt*, Pathology of Jaundice. *Albert G. Goodwyn*, Hæmoptysis. *Joel R. Adams*, Hæmorrhoids. *Martin Philips*, Icterus.

Alabama.—Fleming Jordan, Hepatitis. *Henry S. Levert*, Metallic Ligature of Arteries.

Georgia.—Augustine Owen, Acute Bronchitis. *Clark D. Parks*, Effects of of Cold. *Thomas W. Ingram*, Sanguiferous Circulation. *John W. Wiley*, Cold and Heat as Causes of Disease.

District of Columbia.—Thomas Miller, Jr, Jaundice.

Kentucky.—Norborne A. Galt, Idiopathic Dyspepsia.

Ohio.—Edson B. Olds, Secale Cornutum. *Joab Wright*, Medicinal Qualities of Water.

Louisiana.—Edward R. Chew, Strictures of the Urethra. *Frederick N. Ogden*, Gun-shot Wounds of Intestines.

Tennessee.—Robert H. Rivers, Hæmorrhoids.

Aggregate, 107.

W. E. HORNER, *Dean*.

On the same occasion the corner-stone of the new Medical Hall was laid by the Right Rev. WILLIAM WHITE, Bishop of Pennsylvania, and an inscription to the following effect, along with the list of Graduates, was deposited; a suitable Address being delivered to the graduates and to the public, in the Masonic Hall, by the Rev. WILLIAM H. DELANCEY, D.D. Provost, &c.

UNIVERSITY OF PENNSYLVANIA.

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John Andrew Shulze, Governor, John B. Gibson, Chief Justice, of the Commonwealth of Pennsylvania.
George M. Dallas, Mayor of the City of Philadelphia.

This Inscription, deposited March the twenty-first, A.D. one thousand eight hundred and twenty-nine, commemorates the laying of the Corner-stone of the New Medical Hall, fifty-four years after the original organization of the Medical Faculty by Drs Morgan and Shippen. The Institution having in the mean time conferred the Degree of Doctor of Medicine upon upwards of two thousand Gentlemen educated within its walls, who, dispersed in different quarters of the United States, have thus extended the blessings of sound Medical Instruction, and in many instances organizing themselves into new Schools of Medicine, have thus made the University of Pennsylvania the Parent of Medical Science in the United States.

Architect, William Strickland. Stone-cutter, John Strothers. Bricklayer, Daniel Groves. Carpenter, John O'Neil.

COLUMBIAN COLLEGE, *District of Columbia.*

At the late commencement of the Medical Department of the Columbian College, in the District of Columbia, held in Washington City, March 11, 1829, the degree of Doctor in Medicine was conferred on the following gentlemen:
J. Irwin Dunn, of Washington city, on Vermes.
J. B. Elliott, of Washington city, on Mania a Potu.
J. M. Higgins, of Maryland, on Cholera Infantum.
Gonsalvo Hodges, of Maryland, on Enteritis.
J. L. M'Williams, of Maryland, on Hæmoptysis.
Benjamin F. Nourse, of Washington city, on Variola.
J. M. Stewart, of Maryland, on Hydrocephalus.
A. M. Stanford, of England, on Dysmenorrhea.
Timothy Upham, New Hampshire, on Typhus Fever.

The professors of the Medical Department of the Columbian College, in the District of Columbia, anxious to extend the benefits of regular medical education to students whose pecuniary means will not enable them to attend courses of public lectures, have adopted the following resolutions:

Resolved, That this school be open to the admission of one student of the character contemplated in the foregoing preamble, from each of the United States, and one from each of the Territories, to attend all the lectures without charge.

Resolved, That the senators of congress are hereby authorized to select one such student from their respective states, and the delegates of congress one such student from their respective territories, who shall be admitted to gratuitous attendance on the lectures, by exhibiting a certificate of selection from the senators or delegate, to the dean of this department. It is to be understood that said student shall pay five dollars on entering the school, as a matriculating fee, and should he graduate in this institution, a fee of twenty dollars will be required.

JAMES M. STAUGHTON, M.D., *Dean.*

Washington City, Jan. 24, 1829.

PHILADELPHIA MEDICAL INSTITUTE.

The summer course of Lectures will begin on Monday, the 6th of April, and end on the Saturday preceding the first Monday of November. The month of August is a vacation.

Dr N. CHAPMAN, on the Practice of Medicine.
Dr W. E. HORNER, on Anatomy.
Dr W. P. DEWEES, on Midwifery.
Dr SAMUEL JACKSON, on Materia Medica.
Dr J. BELL, on the Institutes of Medicine, and on Medical Jurisprudence.
Dr J. K. MITCHELL, on Chemistry.
Dr H. L. HODGE, on the Principles of Surgery.
Dr THOMAS HARRIS, (Surgeon United States' Navy,) on Operative Surgery.

PHILADELPHIA MEDICAL SOCIETY.

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The following lectures were read before the Society during the session of 1828-9:—

Dr Condie. On Peritonitis, as occurring in Young Children.

Dr Bell. On the Origin of the Periodical Fevers of Rome and its Vicinity. Communicated by Professor GIACOMO FOLCHI, of Rome.

Dr R. Coates. On the Connection of certain Mechanical and Hydrostatic Phenomena with Physiology and Surgical Practice.

Dr Darrach. On the Reciprocal Circulation of the Blood between the Mother and Fœtus, and the Use of the Placenta.

Dr Rousseau. On the Management of Labour during Parturition.

Dr Barnes. On Conception.

Dr Hodge. A Communication from Professor QUADRI, of Naples, on Acupuncturation.

Dr Jackson. On the Difference of Action between General and Topical Depletion.
Dr Bell. On Medical Creeds.
Dr Hodge. On Erysipelas.
Dr Horner. On the Pathology of the Nervous System.
Dr Meigs. Remarks on some of BROUSSAIS's Propositions in Medicine.
Dr Harris. On Asphyxia.
Dr Beattie. On the Use and Abuse of the Forceps in Obstetrical Practice.
Dr Rousseau. On Hydrophobia.
Dr Condie. On Hæmatemesis.

The following gentlemen were elected honorary members of the Society:—

Dr Sacco, of Milan; Professor Giacomo Folchi, of Rome; Professor Quadri, of Naples; Professor Mojon, of Genoa; Professor J. D. Carns, of Leipsic; Dr A. N. Gendrin, of Paris; Dr Chauffard, of Avignon; Dr Bournonville, of Philadelphia.

The following gentlemen were admitted as junior members of the Society during the session.

Pennsylvania.—Robert H. Jones; J. F. Bullock; Joseph Baldwin; William N. Johnson; John Perdui; Samuel Abernethy; Obed Bailey; J. Meckley; Simon A. Wicks; Elijah Griffiths; George W. Norris; James M'Clintock; John R. Taggart; Dr Erasmus Thomas.
New Jersey.—Dr John R. Sickler; William P. Garrison; Charles Sartori.
Maryland.—Lyttleton M. Robertson.
Virginia.—John N. Powell; Singleton J. Cooke; William Pettit.
Ohio.—Gustavus Allen; Edson B. Olds; Edward Thompson; Joab Wright.
South Carolina.—William G. Adams.
Louisiana.—F. N. Ogden; Dr Edward Chew; Augustus H. Cenas.
Trinidad de Cuba.—Joseph M. Urgiola.

From the Records of the Society.
ROBERT M. DUNBAR,
Recording Secretary.

On the Mortality in the City of Philadelphia, during the Year 1828.—From the statement of deaths and births in the city of Philadelphia, during the past year, published by the Board of Health, Mr Samuel Hazard, Editor of the Pennsylvania Register, has made the following remarks and calculations, which we copy from the above work, Vol. 3, page 128.

"The whole number of deaths is 4292, viz. Males 2370, Females 1922—Whites 3586, Colored 706: or 1 in 6 of the whole.

Died under the age of 15, 2196, or more than one-half.
from 15 to 40, 1070, about one-fourth.

3266, or more than three-fourths under age of 40.

40 to 70,	397, or 1 in 11.
70 to 80,	150, or 1 in about 28.
80 to 90,	90, or 1 in 48.
90 to 120,	17, or 1 in 252.

	Adults.	Children.	Total.
During Spring months,	449	413	862
Summer do.	492	835	1327
Autumnal do.	587	583	1170
Winter do.	487	446	933
	2015	2277	4292

The greatest number of deaths was in	July.
The smallest do. do.	May.
The greatest number of adults died in	September.
The smallest do. do.	May.
The greatest of children do.	July.
The smallest do. do.	February and May.

The number of paupers who died under the care of the Guardians of the Poor was 356; or 1 in 12 of the whole number of deaths (deducting the still-born); of these 356, it appears by the Alms-House table, in Register page 90, 271 died in the house, leaving for out-door paupers 85; of these 271, 44 died in the *cells*, being about one-eighth of 349, the whole number admitted into them during the year—and the most of *them* for mania a potu."

About 11 deaths (exclusive of still-born), occur in the city and districts every 24 hours: or, *one death* in every *two hours and eleven minutes*.

About *one-half* of the *deaths* were occasioned by the following six diseases, viz.

Of Consumption,	581
Convulsions,	315
Cholera,	291
Debility,	286
Dropsy in the head,	110
Fevers of different kinds,	382
	1965

Of those who died of Convulsions, Cholera, Debility, and Dropsy in the head, more than *one-half* were children under *one year* of age, or nearly *three-fourths* under two years.

More persons died of Consumption than of any other disease, viz. 581; being a greater number than in any former year, excepting 1826, when 587 died. The following table shows the numbers by that disease, and the total deaths (excluding still-born), for every year since the Bills of Mortality were commenced. The proportion to the whole number of deaths (rejecting still-born) is about 1 in 6½.

1807	306	1961	1819	459	2979
1808	301	2145	1820	446	3189
1809	311	1884	1821	438	2161
1810	306	1897	1822	488	3334
1811	369	2249	1823	536	4372
1812	339	2017	1824	576	4284
1813	216	2223	1825	519	3539
1814	274	2041	1826	587	3845
1815	347	1943	1827	523	3659
1816	434	2225	1828	581	3971
1817	349	2107			
1818	396	2609	Total,	9,101	60,634

Of Small-Pox, 107 died.

From drunkenness there were 30 deaths, and from mania a potu 82: making together 112—admitted to be from that cause. How many concealed under other names!

It is remarkable, in so populous a city, where persons of every age are so much exposed to dangers of every kind, that there should be so few deaths from casualties as 19—although under this head might properly be placed, drowning, from which there were 53 deaths, (a larger number than usual), making 72. Of suicide, there were 7 cases.

There were in 1828, 7200 Births, viz. 3694 Males, and 3506 Females: or an addition to the population from this source, of (deducting still-born), 2587 beyond the deaths, or in the proportion of 72 births to about 43 deaths.

There were 321 children still-born, or 1 of every 22 births.

It implies an improved state of obstetric practice that only *three* cases out of 7200 proved fatal.

There were about 20 Births in each 24 hours, or about one in every hour and twelve minutes; while the deaths as above stated, were one in about 2 hours and 11 minutes.

	Births in different Years.			*Practitioners.*	*Deaths.*
	Male.	Female.	Total.		
1820	1709	1501	3210*	78	3374
1821	2630	2417	5047	99	3172
1822	3021	2701	5722	107	3591
1823	2977	2836	5813	111	4600
1824	3062	2771	5833	117	4399
1825	3444	3182	6626	129	3812
1826	3526	3214	6740	126	4151
1827	3581	3452	7033	127	3945
1828	3694	3506	7200	137	4292

TRANSYLVANIA UNIVERSITY.

ALVA WOODS, D.D. President and Professor of Moral and Intellectual Philosophy.

BENJAMIN WINSLOW DUDLEY, M.D. Professor of Anatomy and Surgery.

CHARLES CALDWELL, M.D. Professor of the Institutes and Clinical Practice.

JOHN ESTEN COOKE, M.D. Professor of the Theory and Practice of Medicine.

WILLIAM HALL RICHARDSON, M.D. Professor of Obstetrics and Diseases of Women and Children.

CHARLES WILKINS SHORT, M.D. Professor of Materia Medica and Medical Botany, and Dean of the Faculty.

JAMES BLYTHE, D.D. Professor of Chemistry.

CHARLES SHAW, M.D. Librarian of the Medical Faculty.

GRADUATES.

At a public commencement held in the Chapel of the University, on Tuesday the 10th of March 1829, the degree of Doctor of Medicine was conferred on the following gentlemen, alumni of the School, who had undergone satisfactory examinations before the Medical Faculty, Trustees and President, and written Theses on subjects annexed to their names.

Kentucky.—Robert Stuart Apperson, of Richmond, on Sarcocele. *John Charlton Beatty, of Mason County,* on Paracyesis Abortus. *Richard Wil-*

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* From 1st April to 31st December.

liam Ferguson, of Louisville, on the Physiology and Pathology of the Teeth. *Charles Hay, of Fayette County*, on the Anatomy and Physiology of the Stomach. *Henry Hopson, of Christian County*, on Menstruation. *John Terrel Lewis, of Lexington*, on Milk Sickness. *Preston Lindsay, of Scott County*, on the Identity of Summer, Fall and Winter Epidemics. *Thomas Jefferson Moore, of Bowling-green*, on Erysipelas. *Alexander Hamilton Peck, of Lexington*, on Phthisis Pulmonalis. *James Ritchie, of Lexington*, on Hydrocele. *Thomas Stevenson, of Meade County*, on Syphilitic and Pseudo-syphilitic Affections. *Robert James Waggener, of Columbia*, on the Functions of the Large Intestines. *Henry Francis Washington, of Russelville*, on Dyspepsia. *Walter Carr Winter, of Lexington*, on Ophthalmia Purulenta.

Mississippi.—Charles Walton Harris, of Pike County, on Lacteal and Venous Absorption. *Charles Shaw, of Jefferson County*, on the Nature and Treatment of Syphilis. *Solomon Tracy, of Meadville*, on Uterine Hæmorrhage. *William Walworth Usher, of Wilkinson County*, on Malignant, Congestive Bilious Fever. *William Kinne Wilson, of Adams County*, on Dropsy. *Ellis Pusey Passmore, of Meadville*, on Uterine Hæmorrhage.

Alabama.—William Kelsay Adams, of Limestone County, on the Medical Topography and Endemic Fever of Limestone county, Alabama. *Richard Tucker Harper, of Lawrence County*, on the Analogy between the Liver and the Brain. *Jacob Chancy Jordan, of Linden*, on the Operation of Lithotomy. *Sidney Smith Prince, of La-Grange*, on the Medical Topography and Endemic Fever of Franklin county, Alabama. *William Williams Wilson, of Monroe County*, on Sleep.

Tennessee.—Erasmus Darwin Fenner, of Jackson, on Uterine Hæmorrhage of Pregnancy. *James M'Kinney Gray, of Sumner County*, on Opium. *John M'Call, of Smith County*, on Purgative Medicines. *Henry Holmes Treadway, of Murfreesboro'*, on Syphilis.

South Carolina.—Archibald Ingram Barron, of York District, on Syphilis. *Thomas Latta Dunlap, of Lancasterville*, on Hernia of the Abdominal Rings. *Gilbert Tennent, of Abbeville District*, on the Medical Topography of Abbeville District, S. C. with Observations on Bilious Fever as it occurred there in the summer of 1828. *Franklin Williams, of Lawrens District*, on Diet.

Virginia.—William Bomar, of Halifax County, on Hydrocele. *Peter Leath Penn, of Patrick County*, on Curved Spine.

Louisiana.—Owen Connelly Blount, of East Baton-Rouge, on the Teeth. *William Henry Lyne, of East Feliciana*, on Bilious Fever.

Michigan.—Rice M'Coy, of Carey's Station, on the Actual Cautery. *Josephus M'Coy, of Carey's Station*, on the Pathology and Medical Treatment of Calculous Affections.

Ohio.—Rezin Thompson, of Harrison County, on Digestion.

C. W. SHORT, M.D. *Dean.*

The Philosophical Magazine for January, 1829, announces the death of Dr William Hyde Wollaston, well known to the scientific world as an eminent philosopher and chemist.

SOLOMON W. CONRAD has been elected Professor of Botany in the University of Pennsylvania.

INDEX TO VOLUME VII.